Considered on 4/6/03 MCG



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=> fil wpix
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FILE LAST UPDATED:          11 JAN 2003      <20030111/UP>
MOST RECENT DERWENT UPDATE:     200302        <200302/DW>
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    GUIDES, PLEASE VISIT:
    http://www.derwent.com/userguides/dwpi_guide.html <<<

=> d all abeq tech abex tot

L5   ANSWER 1 OF 5  WPIX (C) 2003 THOMSON DERWENT
AN   2002-010949 [01]   WPIX
DNN  N2002-009093       DNC C2002-002768
TI   Investigation apparatus useful in investigating, e.g. polymorphs of
     material, comprises array of receptacles, treatment mechanisms, and
     computer.
DC   B04 J04 S03 T01
IN   COWELL, D; KOBYLECKI, R; STYLIANOPOULOS, V; KOBYLECKI, R
     J
PA   (MILL-N) MILLENNIUM PHARM INC; (COWE-I) COWELL D; (KOBY-I) KOBYLECKI R J;
     (STYL-I) STYLIANOPOULOS V
CYC  96
PI   WO 2001077690 A1 20011018 (200201)* EN   57p    G01N035-02
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZW
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            LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
            SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
     AU 2001046699 A  20011023 (200213)              G01N035-02
     EP 1181560    A1 20020227 (200222)  EN          G01N035-02
         R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
            RO SE SI TR
     US 2002183938 A1 20021205 (200301)              G01N031-00
ADT  WO 2001077690 A1 WO 2001-GB1593 20010409; AU 2001046699 A AU 2001-46699
     20010409; EP 1181560 A1 EP 2001-919638 20010409, WO 2001-GB1593 20010409;
     US 2002183938 A1 WO 2001-GB1593 20010409, US 2002-18034 20020723
FDT  AU 2001046699 A Based on WO 200177690; EP 1181560 A1 Based on WO 200177690
PRAI GB 2000-8563     20000407
IC   ICM  G01N031-00; G01N035-02
     ICS  B01J019-00; G01D001-00; G01N001-00; G01N035-00; G06F015-00;
          G06F019-00; G06M011-04
AB   WO 200177690 A UPAB: 20020105
     NOVELTY - An investigation apparatus comprises an array of receptacles (6)
     adapted to contain a material to be investigated, treatment mechanisms for
     subjecting the material to respective different treatments, and a computer
```

(16) arranged to control the respective material treatments.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of investigating different physical and/or chemical forms of a material. The material is contained in the array of receptacles, subjected to respective different treatments under control by the computer, and then analyzed.

USE - The invention is used for investigating different physical and/or chemical forms of material. It can be utilized to investigate polymorphs of a material, isomers of a material which allow different isomeric forms to be resolved, different hydrates/solvates, and different salts of active materials (e.g., pharmacologically active materials).

ADVANTAGE - The inventive apparatus can effectively investigate different physical and/or chemical forms of a material. It can provide information regarding the polymorphs of the material, and information relating to the treatments to which the material is subjected.

DESCRIPTION OF DRAWING(S) - The figure shows a side view of the investigation apparatus.

Receptacles 6

Heating/cooling block 10

Stirrer block 12

Computer 16

Heating/cooling unit 18

Pressure unit 22

Reflux condensers 32

Dwg.1/10

FS CPI EPI

FA AB; GI

MC CPI: B11-C08; B12-K04; **J04-B01B**

EPI: **S03-E15**; T01-X

TECH UPTX: 20020105

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Component: The receptacles include a porous member which is porous to fluids but not to the material to be investigated. The porous member defines a wall supporting the material. A pressure unit (22), which is controlled by the computer, is adapted to restrict the passage of fluid from the receptacles under gravity. The treatment mechanisms include a heating/cooling block (10) and a stirrer block (12) which are controllable for heating/cooling and stirring the contents of the receptacles. A heating/cooling unit (18) controls the temperature of the receptacles. A stirrer control unit is provided to control the stirring of materials in the receptacles. The receptacles are provided with respective reflux condensers (32) for reducing the loss of material from the receptacles caused by evaporation. The computer is programmed to determine the treatments to which the material in the receptacles is to be subjected. It stores data relating to the analysis. The material to be investigated is preferably solid. Preferred Method: Pressure is applied to prevent solvent(s) passing out of the receptacles, away from the material, during treatment. The different treatments include variable(s) relating to (a) the solvent(s) used in the treatment, (b) the operation of the heating mechanism during treatment, and/or (c) the agitation of material in the receptacles during treatment.

L5 ANSWER 2 OF 5 WPIX (C) 2003 THOMSON DERWENT

AN 2001-441336 [47] WPIX

DNC C2001-133247

TI Examining chemical reactions, e.g. catalyzed polymerization reactions, by controlling reaction variables and creating database.

DC A17 A35

IN BRUCE, M; DE KEIJZER, A H J F; GRUTER, G; **KOBYLECKI, R**; KRANENBURG, M; PARTINGTON, R; RAMJOIE, Y

PA (MILL-N) MILLENNIUM PHARM LTD; (STAM) DSM NV

CYC 95

PI WO 2001036087 A1 20010525 (200147)* EN 65p B01J019-00 <--

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ

NL OA PT SD SE SL SZ TR TZ UG ZW
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AU 2001015296 A 20010530 (200152) B01J019-00 <--
EP 1230011 A1 20020814 (200261) EN B01J019-00 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
GB 2372506 A 20020828 (200264) B01J019-00 <--

ADT WO 2001036087 A1 WO 2000-GB4370 20001117; AU 2001015296 A AU 2001-15296 20001117; EP 1230011 A1 EP 2000-977657 20001117, WO 2000-GB4370 20001117; GB 2372506 A GB 2000-28110 20001117

FDT AU 2001015296 A Based on WO 200136087; EP 1230011 A1 Based on WO 200136087

PRAI GB 1999-27148 19991117

IC ICM **B01J019-00**
ICS **B01J003-04**; **B01J019-18**; C08F002-01; C08F010-00; G06F019-00

AB WO 200136087 A UPAB: 20021031
NOVELTY - Examining chemical reactions by arranging array of apparatus (2) with their pre-mixing vessels (24) being situated in nitrogen filled glove box (42). The glove box contains a multi-pipetting robot (40) which delivers measured amounts of materials, from the vessels (44) to the respective pre-mixing vessels. The robot and the apparatus reaction variables are controlled by a single computer (45).

DETAILED DESCRIPTION - Examining chemical reactions by arranging an array of apparatus (2) with their pre-mixing vessels (24) being situated in a nitrogen filled glove box (42). The glove box contains a multi-pipetting robot (40) which delivers measured amounts of materials, such as catalyst components, co-catalysts, solvents etc., from the vessels (44) to the respective pre-mixing vessels. The apparatus reactors (4) can be electrically heated and cooled by water. Each reactor can independently polymerize ethylene at up to 100 bar and at 50-150 deg. C. The robot and the apparatus reaction variables are controlled by a single computer (45). The computer also stores data relating to the reactions forming a database, which can be searched by a search engine.

USE - For examining chemical reactions e.g. an olefin polymerization reaction.

ADVANTAGE - The assessment of the effect and/or efficiency of catalysts and other polymerization reactions is speeded up and requires less time.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic representation of an array of apparatus for preparing polymers
Apparatus 2
Reactors 4
Pre-mixing vessels 24
Pipetting robot 42
Computer 45
Dwg.2/7

FS CPI
FA AB; GI
MC CPI: A04-G01A; A09-B; A09-D03
TECH UPTX: 20010822
TECHNOLOGY FOCUS - COMPUTING AND CONTROL - Preferred Embodiment: A computer is used to control reaction variables and create a database

L5 ANSWER 3 OF 5 WPIX (C) 2003 THOMSON DERWENT
AN **2000-329096** [28] WPIX
DNC **C2000-099749**
TI Syntheses, used in e.g. Suzuki reactions, mix-and-split, parallel-array and combinatorial syntheses use porous devices with bodies with porous internal regions in which active material is entrapped.
DC B04 D16 E19 **J04**

IN **KOBYLECKI, R**; ZAMPONI, A M
PA (CAMB-N) CAMBRIDGE DISCOVERY CHEM LTD; (MILL-N) MILLENNIUM PHARM LTD
CYC 88
PI WO 2000021658 A2 20000420 (200028)* EN 60p B01J019-00 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9962203 A 20000501 (200036) B01J019-00 <--
EP 1121196 A2 20010808 (200146) EN B01J019-00 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2002527412 W 20020827 (200271) 52p C07K001-04
ADT WO 2000021658 A2 WO 1999-GB3406 19991014; AU 9962203 A AU 1999-62203 19991014; EP 1121196 A2 EP 1999-949229 19991014, WO 1999-GB3406 19991014; JP 2002527412 W WO 1999-GB3406 19991014, JP 2000-575617 19991014
FDT AU 9962203 A Based on WO 200021658; EP 1121196 A2 Based on WO 200021658; JP 2002527412 W Based on WO 200021658
PRAI GB 1998-22436 19981014
IC ICM **B01J019-00**; C07K001-04
ICS **B01J008-02**; **B01J020-26**; C07B061-00; C07K001-06; C08J009-24
AB WO 200021658 A UPAB: 20001006
NOVELTY - A porous device, comprising a body with an internal porous region, in which an active material is entrapped, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method of synthesis using the novel porous device;

(2) a method of synthesizing different compounds, using several of the novel porous devices, comprising contacting a porous device with a sequence of reagents, and a second porous device with a different sequence of reagents, to prepare different compounds on the different porous devices;

(3) a method of causing an interaction between an active material and another material, comprising entrapping the active material in the novel device;

(4) a collocation or assembly comprising multiple porous devices;

(5) a method of synthesizing a library of compounds, using the novel devices, including the step of subjecting each device to a unique sequence of treatments, and/or reactions, to prepare different compounds, on the devices;

(6) a method of manufacturing the novel device, comprising causing a body with a porous internal region to form, with an active region entrapped in it; and

(7) substrates for use in solid-phase chemistry, comprising a chemically active species bearing or containing accessible functionalities and a matrix-forming material.

USE - The methods are used to synthesize compounds, to effect interactions between active materials and other materials and to synthesize libraries of compounds (claimed). The methods are used in mix-and-split, parallel-array, and combinatorial synthesis. They may be used to support Suzuki reactions, Mitsunobu reactions, alcohol oxidations using pyridine sulfur trioxide in dimethylsulfoxide, and reduction of an aldehyde to an alcohol using sodium cyanoborohydride.

ADVANTAGE - The methods avoid the expense of tubes and the need for charging of tubes with carefully weighed-out samples of resin, which can be time consuming. They also avoid the problems associated with tubes with internal volume significantly greater than the volume of resin incorporated to allow swelling. Different devices reacted with different sequences of reagents may be uniquely identified. Use of the devices allows the use of a range of active materials that would otherwise react

together or that would be incompatible and thus would need to be kept apart. Reagents that would normally react with one another may be used in adjacent devices for column and continuous flow synthesis. The devices may contain scavenger materials to remove excess by-products and contaminants from the reaction product.

Dwg.0/4

FS CPI

FA AB; DCN

MC CPI: B05-A01B; B07-D04C; B10-A10; B11-C01; D05-H; **J04-B01**

TECH UPTX: 20000613

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred method: The method of (1) includes the step of contacting the porous device with a reagent, under conditions that cause it to react with the active material, so that a bond is formed between the active material and the reagent. The method involves contacting the porous device with reagents, in order to prepare a compound that is covalently bonded to the active material of the porous device. The method includes the step of cleaving a compound prepared from the active material. The arrangement and/or position of particles of the active material is predetermined.

Preferred device: The active material is arranged to act as a support for a compound prepared in solid-phase synthesis. The active material includes a linker, or is covalently bonded to a linker in the synthesis. The materials that make up the internal region are fixed in position, and the internal region is not flowable. The internal region comprises a random network of pores that has a substantially fixed configuration. The porous device has a predetermined shape. The porosity at a surface of the device is substantially the same as the porosity of the internal region adjacent to the surface. The porous device is substantially self-supporting, and the internal region consists essentially of active material. The porous device comprises an inert material and an active material, preferably arranged to entrap the active material within the internal regions. The inert material defines a porous support, and the active material is arranged within pores of the support, but not covalently bonded to it. The active material is in the form of individual, preferably spherical, particles, separated from one another by the inert material, preferably a thermoplastic. The devices include means for uniquely identifying the devices from one another. The device has a volume of 200-500mm2, and a porosity of 0.8-1ml/min to methanol at ambient temperature and pressure.

TECHNOLOGY FOCUS - POLYMERS - Preferred material: The active material is an organic polymeric resin, preferably a cross-linked resin, in the form of non-cellulosic beads.

ABEX

EXAMPLE - Encapsulated aminomethylated polystyrene resin (1 plug; 55.8micro-l), previously swollen in dichloromethane (CH2Cl2), was treated with a solution of p-((R,S)-(1-(1-(9H-fluoren-9-yl)-methoxyformamido)-2,4-dimethoxybenzyl)-phenoxyacetic acid (1.5 equivalents), DIC (5-(dimethyltriazone)imidazole-4-carboxamide) (1.5 equivalents) and butanol (1.5 equivalents) in CH2Cl2 (5 ml) and the reaction shaken fro 48 hours. The plug was washed with CH2Cl2 (5x5 ml), dimethylformamide (DMF) (5x5 ml), methanol (5x5 ml) and diethyl ether (5x5 ml) (the 'usual wash cycle'). The remaining free amino sites were capped with excess acetic anhydride/pyridine in CH2Cl2. The plug was washed according to the usual wash cycle and a quantitative Fmoc test gave a substitution of 40micro-mol (75% yield). One plug of Fmoc-Rink linker resin was treated with 20% piperidine in DMF for 20 minutes. After the usual wash cycle, Fmoc-Gly-OH (5 equivalents), butanol (5 equivalents) and DIC (5 equivalents) were added and the coupling allowed to proceed for 4 hours in CH2Cl2 (10 ml). Some precipitation was observed as the reaction proceeded and DMF (10 ml) were added to obtain a clear solution. After the usual wash cycle and removal of the Fmoc group, the analogous procedure was used to couple Fmoc-Phe-OH and Fmoc-Ala-OH to obtain Fmoc-Ala-Phe-Gly-Rink linker resin. The tripeptide was then cleaved from the resin by shaking with 95%

trifluoroacetic acid for 1 hour. Volatiles were removed under vacuum and the crude tripeptide purified by semi-preparative high-performance liquid chromatography to give tripeptide Fmoc-Ala-Phe-Gly-NH2 (10.4 mg; 63%). The product was identical to that obtained on ordinary polystyrene beads.

L5 ANSWER 4 OF 5 WPIX (C) 2003 THOMSON DERWENT
AN **1999-478790** [40] WPIX
DNC **C1999-140812**
TI New solid support materials.
DC A96 A97 B05 E19 F06 F08 **J04**
IN BRADLEY, M; COWELL, D; **KOBYLECKI, R**; KRONFLI, E
PA (CAMB-N) CAMBRIDGE COMBINATORIAL LTD; (CAMB-N) CAMBRIDGE DRUG DISCOVERY LTD
CYC 85
PI WO 9932705 A2 19990701 (199940)* EN 65p D06M014-26
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9917731 A 19990712 (199950) D06M014-26
EP 1044297 A2 20001018 (200053) EN D06M014-26
R: BE CH DE FR GB IT LI NL
JP 2001527025 W 20011225 (200204) 60p C07B061-00
ADT WO 9932705 A2 WO 1998-GB3875 19981222; AU 9917731 A AU 1999-17731 19981222; EP 1044297 A2 EP 1998-962601 19981222, WO 1998-GB3875 19981222; JP 2001527025 W WO 1998-GB3875 19981222, JP 2000-525616 19981222
FDT AU 9917731 A Based on WO 9932705; EP 1044297 A2 Based on WO 9932705; JP 2001527025 W Based on WO 9932705
PRAI GB 1997-26983 19971222
IC ICM C07B061-00; D06M014-26
AB WO 9932705 A UPAB: 19991004
NOVELTY - A novel method of supporting a compound or other moiety using a fabric which comprises a plastics material.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) use of a fabric as a solid support for supporting a compound or other moiety;

(2) a solid support for supporting a compound or other moiety, the support being flexible and including an enclosed region;

(3) a method of manufacturing a solid support as in (2) comprising causing a flexible material to define the enclosed region;

(4) an apparatus for use in a method as in (3) comprising:

(a) a feeding device for feeding an elongate strip of material;

(b) a folding device for folding the elongate strip; and

(c) a securing device for securing parts of the strip together to define an enclosed region;

(5) a method of making a solid support for use in synthesis or screening, comprising: irradiating a first polymeric material and subsequently contacting it with one or more monomers to prepare a graft polymer;

(6) use of a graft polymer prepared by irradiating a first polymeric material and contacting it with one or more monomers, as a solid support for use in synthesis or screening;

(7) a method of making a library of compounds starting with an x by y array arrangement of discrete reaction zones, each including an associated identification device for uniquely identifying each zone, where adjacent reaction zones in the array arrangement are fixed relative to one another, where the sequence of the identification device in the array arrangement is predetermined and where the ratio x to y is greater than 10, the method comprising:

(a) dividing the array arrangement into sub-array arrangements;

(b) subjecting some of the sub-array arrangements to different

chemical processes than others;

(c) determining (when required) the identity of each sub-array arrangement by identifying fewer identification devices associated with reaction zones in the sub-array arrangement than the total number of identification devices associated with reaction zones in the sub-array arrangement;

(d) repeating (c) (when required) to identify other sub-array arrangements;

(e) optionally dividing respective sub-array arrangements into further sub-array arrangements and repeating (b) to (d) on the further sub-array arrangements; where the different chemical processes to which each reaction zone is subjected are recorded so that the different chemical processes to which each reaction zone in the library is subjected are known;

(8) a method of determining the identity of each reaction zone in a sub-array arrangement comprising a known number of reaction zones where the sub-array arrangement has been detached from a parent array arrangement where the identity and position of each reaction zone in the parent array arrangement has been predetermined, the method comprising:

(a) selecting a reaction zone to be identified in the sub-array arrangement;

(b) noting the position of the identified reaction zone in the sub-array arrangement;

(c) determining the identity of the identified reaction zone;

(d) relating the information ascertained in (b) and (c) to the predetermined identity and position of each reaction zone in the parent array arrangement, thereby to determine the identity of each reaction zone in the sub-array arrangement.

USE - The solid support materials can be used in solid phase chemical and biochemical synthesis, immunoassays and hybridization reactions and for supporting reagents e.g. catalysts or enzymes.

Dwg.0/6

FS CPI

FA AB; DCN

MC CPI: A12-V03C1; A12-W11L; B04-C01A; B08-D03; B11-C01; E08-D03; F04-E; F04-E04; **J04-B; J04-E03**

TECH UPTX: 19991004

TECHNOLOGY FOCUS - POLYMERS - The fabrics preferably, comprise: a graft copolymer comprising a first polymeric material to which monomers are subsequently grafted. The first polymeric material may be e.g. optionally-substituted polyolefin, polyamide, polyurethane, polyester or a copolymer of ethylenically-unsaturated comonomers. The monomers may be ethylenically-unsaturated. They may include optionally-substituted aryl and heteroaryl groups, carrboxylic acid, carboxylic acid derivatives, amines, amine derivatives, inorganic acid, sulfate, hydroxy and substituted alkyl, cycloalkyl and cycloheteroalkyl groups and protected versions.

ABEX

EXAMPLE - Samples (3 x 10 cm) of polypropylene non-woven fabric (density 100 g/m2 and 550-650 mum thickness) were irradiated in air to total doses of 2.5-10 kGy and at a dose rate of 1 kGy/hour using (0-60). Following irradiation, accurately weighed samples were placed in glass vessels together with 100 ml of an aqueous solution comprising methacrylic acid (MAA) and dimethylacrylamide (DMAM) at ratios varying from 10/0 to 1/9 % vol/vol and ferrous sulfate as a homopolymerization inhibitor. The mixtures were deoxygenated by bubbling with oxygen-free nitrogen and the glass vessels were placed in a thermostatted water bath under nitrogen for 3 hours at 70degrees C. The grafted fabrics were filtered from the grafting solution, washed thoroughly with warm deionized water and dried to a constant weight. An acrylic acid grafted material (2 meters, 0.75 Mrad, 6:4 MAA:DMAM grafting) was reacted with Boc-NH-(CH2)2NH2/di-isopropylcarbodiimide (DIC)-N-hydroxybenztriazole HOBt (10 equivalent) in dichloromethane (DCM) for 48 hours. After the general wash cycle the

tert-butyloxycarbonyl (Boc) group was removed with 50 % trifluoroacetic acid (TFA) in DCM. The amino compound was then reacted with the freshly prepared anhydride of the diacid 3,6,9-trioxaudecanedioic acid (20 equivalent) in DCM for 48 hours. The Boc group was then removed and a quantitative ninhydrin test gave a substitution of 2.35 muM/cm2. 200 cm2 of the material (2.35 muM/cm2) were reacted with 9-fluoroenylmethoxycarbonyl (Fmoc)-Gly/DIC-HOBt for 1 hour in DMF. The resin was then capped with Ac2O/pyridine in DCM for 2 hours. A quantitative Fmoc test gave a substitution of 1.42 muM/cm2. The derivatized materials was treated with 20 % piperidine in DMF for 20 minutes. The free amino derivative was then treated with a solution of p-((R, S)-approximatelyk-(1-(9H-fluoren-9-yl)-methoxyformamido)-2,4-dimethyoxybenzyl)-phenoxyacetic acid (Fmoc-rink linker, 1.5 equivalent), DIC (1.4 equivalent), HOBt (1.5 equivalent) in DCM and the resin shaken overnight. The remaining free amino sites were capped with excess acetic anhydride/pyridine in DCM. The product was then used to prepare the tripeptide Fmoc-Ala-Phe-Gly-NH2.

L5 ANSWER 5 OF 5 WPIX (C) 2003 THOMSON DERWENT
AN **1996-232663** [24] WPIX
DNN **N1996-195227** DNC **C1996-073630**
TI Solid phase synthesis of chemical library on flat support sheets - divided into identifiable reaction zones, esp. for screening cpds. for therapeutic activity, also new paper or resin supports.
DC A96 B04 D16 F09 P73
IN GARDNER, J M F; **KOBYLECKI, R J**; GARDNER, J; KOBYLEVSKI, R
PA (CAMB-N) CAMBRIDGE COMBINATORIAL LTD; (PFIZ) PFIZER LTD; (PFIZ) PFIZER RES & DEV CO; (PFIZ) PFIZER INC; (PFIZ) PFIZER RES & DEV CO NV SA
CYC 22
PI GB 2295152 A 19960522 (199624)* 37p C07K001-04
WO 9616078 A1 19960530 (199627) EN 41p C07K001-04
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA FI JP MX US
FI 9701812 A 19970516 (199733) C07K000-00
EP 792280 A1 19970903 (199740) EN C07K001-04
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
MX 9703681 A1 19970801 (199829) C07K001-04
JP 10509952 W 19980929 (199849) 38p C07K001-04
US 6153375 A 20001128 (200063) C12Q001-00
ADT GB 2295152 A GB 1994-23332 19941118; WO 9616078 A1 WO 1995-GB2707 19951117; FI 9701812 A WO 1995-GB2707 19951117, FI 1997-1812 19970428; EP 792280 A1 EP 1995-937947 19951117, WO 1995-GB2707 19951117; MX 9703681 A1 MX 1997-3681 19970516; JP 10509952 W WO 1995-GB2707 19951117, JP 1996-516666 19951117; US 6153375 A WO 1995-GB2707 19951117, US 1997-836755 19970516
FDT EP 792280 A1 Based on WO 9616078; JP 10509952 W Based on WO 9616078; US 6153375 A Based on WO 9616078
PRAI GB 1994-23332 19941118
IC ICM C07K000-00; C07K001-04; C12Q001-00
ICS A61K038-00; B32B005-26; B32B007-12; C07K001-16; C07K005-08; C12Q001-68; D21H017-26; G01N033-53
AB GB 2295152 A UPAB: 19971030
Prepn. of a library of cpds. comprises: (1) charging each of many discrete reaction zones on a flat solid support with a starting material; (2) subdividing the zones into at least 2 batches; (3) applying at least 2 different reagents (R), 1 to each of the reaction zones in each batch, recording the identity of zones to which each R has been applied and reacting R; (4) further subdividing the zones into at least 2 other batches; (5) repeating step (3), and (6) repeating steps (4) and (5) as many times as required.
USE - The combinatorial libraries produced are esp. used to screen cpds. for therapeutic activity.
ADVANTAGE - This method generates a wide diversity of prods. without

over representation and/or omission, while allowing exact identification of the sequence of steps involved in prepn. of individual cpds. The supports can be made as tapes or streamers which are easier to manipulate than conventional resin beads.
Dwg.0/1
FS CPI GMPI
FA AB; DCN
MC CPI: A12-V03C2; B04-C02; B04-C03; B04-D01; B06-H; B07-H; B10-A07; B10-B02; D05-H09; D05-H10; F05-A06B

=> d all abeq tech abex tot

L34 ANSWER 1 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 2000-195212 [17] WPIX
DNC C2000-060511
TI Obtaining enhanced production rate for a thermal chemical reaction by placing a **porous** insert in reaction chamber volume which is then sized and thermally contacting it with heat transfer chamber.
DC E36 **J04**
IN GAO, Y; TONKOVICH, A L Y; WANG, Y; WEGENG, R S
PA (BATT) BATTELLE MEMORIAL INST; (GAOY-I) GAO Y; (TONK-I) TONKOVICH A L Y; (WANG-I) WANG Y; (WEGE-I) WEGENG R S
CYC 24
PI WO 2000006295 A1 20000210 (200017)* EN 24p B01J008-02 <--
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP MX NO
NO 2001000375 A 20010323 (200130) B01J000-00 <--
EP 1102628 A1 20010530 (200131) EN B01J008-02 <--
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 2002031471 A1 20020314 (200222) C01B003-26
JP 2002521192 W 20020716 (200261) 27p B01J019-00 <--
MX 2001000943 A1 20011201 (200282) B01J012-00 <--
ADT WO 2000006295 A1 WO 1999-US17084 19990727; NO 2001000375 A WO 1999-US17084 19990727, NO 2001-375 20010123; EP 1102628 A1 EP 1999-938838 19990727, WO 1999-US17084 19990727; US 2002031471 A1 **US 1998-123779 19980727**; JP 2002521192 W WO 1999-US17084 19990727, JP 2000-562137 19990727; MX 2001000943 A1 MX 2001-943 20010126
FDT EP 1102628 A1 Based on WO 200006295; JP 2002521192 W Based on WO 200006295
PRAI **US 1998-123779 19980727**
IC ICM **B01J000-00**; **B01J008-02**; **B01J012-00**; **B01J019-00**; C01B003-26
ICS **B01J023-46**; **B01J033-00**; C01B003-16; C01B003-38
AB WO 200006295 A UPAB: 20000405
NOVELTY - Obtaining enhanced production rate per reaction chamber volume for a thermal chemical reaction comprises placing a **porous** insert within the chamber volume to have a mean **porosity** of less than 1 and a transport distance of 3 mm; sizing the chamber volume to transfer reaction heat at enhanced rate; and thermally contacting heat transfer chamber with reaction chamber volume.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a vessel for obtaining an enhanced production rate per reaction chamber volume for a thermal chemical reaction comprising;
(a) a **porous** insert within the reaction chamber volume where a reactant flow completely passes through the insert and chamber volume with insert has a mean **porosity** of less than 1 and a transport distance of 3 mm;
(b) reaction chamber volume with length **parallel** to a bulk reactant flow, the length being equal or less than 6 in and a height of less than or equal to 2 in; and
(c) heat transfer chamber in thermal contact with reaction chamber volume where the ratio of enhanced production rate per reaction chamber volume to a conventional production rate per conventional reaction volume

is 2.

USE - For obtaining enhanced production rate of thermal chemical reactions.

ADVANTAGE - The method increases the heat transfer rate between the reaction vessel and thermal sink, thus approaching the theoretical intrinsic kinetic rate of reaction and production.

Dwg.0/5

FS CPI

FA AB; DCN

MC CPI: E31-A02; E31-N05C; E31-P03; E34-C02; E35-K02; E35-L; **J04-E04** ; N01-C02; N03-B01

TECH UPTX: 20000405

TECHNOLOGY FOCUS - CHEMICAL ENGINEERING - Preferred Reaction: The thermal chemical reaction is a catalytic chemical reaction.
Preferred Method: The catalyst is on the **porous** insert. The insert has a solution deposited interfacial layer with a catalyst metal or it has a buffer layer between the **porous** support and the solution deposited interfacial layer.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Metal Oxide: The metal oxide is aluminum oxide (Al2O3), titanium oxide (TiO2) or their combinations. Al2O3 is alpha-Al2O3, gamma-Al2O3 or their combinations.
Preferred Support: The **porous** support is a metal foam. Preferred Layers: The interfacial layer is a solution deposited metal oxide selected from gamma-Al2O3, silicon dioxide (SiO2), zirconium oxide (ZrO2), TiO2 or their combinations. The buffer layer is a vapor deposited metal oxide selected from Al2O3, TiO2 or their combinations. It comprises sublayers.
Preferred Catalyst: The catalyst material is a noble metal, transition metal or their combinations.
TECHNOLOGY FOCUS - CERAMICS AND GLASS - Preferred Support: The **porous** support is a **porous** ceramic.

L34 ANSWER 2 OF 26 WPIX (C) 2003 THOMSON DERWENT

AN 2000-128185 [12] WPIX

DNC C2000-039329

TI Device for eliminating carbon deposits on solid objects.

DC A35 H04 **J04**

IN MARTIN, G; NOUGIER, L

PA (INSF) INST FRANCAIS DU PETROLE

CYC 27

PI EP 972562 A1 20000119 (200012)* FR 11p B01J008-16 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
FR 2780900 A1 20000114 (200012) B01J008-16 <--
JP 2000161648 A 20000616 (200036) 8p F23K001-04
US 6113388 A 20000905 (200044) F27B009-00

ADT EP 972562 A1 EP 1999-401482 19990616; FR 2780900 A1 **FR 1998-9020 19980713**; JP 2000161648 A JP 1999-197310 19990712; US 6113388 A US 1999-350138 19990709

PRAI **FR 1998-9020 19980713**

IC ICM **B01J008-16**; F23K001-04; F27B009-00
ICS **B01J006-00**; **B01J019-00**

ICA H01B015-00

AB EP 972562 A UPAB: 20000308
NOVELTY - Heating (101a) and treatment (101b) zones are in the same enclosure (100), which includes a vibrating element with a flat base (101) designed to **support** the objects, allow the treatment fluid to diffuse around them and transmit vibrations to transport them. A cooling zone (101c) is in the enclosure downstream of the treatment zone and external means of heating (115, 116) are provided

DETAILED DESCRIPTION - There is an inlet (102) for the objects to be treated, a heating zone (101a) with a feed (104) and an outlet for the heating gas, a treatment zone (101b) for oxidation and/or gasification of

the objects with a feed (105) and an outlet (108) for the gasification fluids and an outlet (118) for the objects. A pipe (111) between the heating gas outlet and the cooling gas inlet contains a compressor (112) and a valve (108). The means of heating comprises a burner (116) attached to a combustion chamber (115) with the burner inlet connected to an outlet from the cooling zone and the combustion chamber outlet connected to a heating zone inlet. A bypass pipe (114) round the means of heating carries the gases which do not need to be reheated. The inlet for the gasification fluid includes a multipoint distributor (106) and its outlet has a multipoint collector (108) which has a single outlet connected to the inlet to a heat exchanger (109) or heater. The device includes means of isolating (103) the atmosphere between the heating zone and the treatment zone and between the treatment zone and the cooling zone. The treatment zone contains several separators. The vibrating element is a trough containing helical flanges, with a vibrator fixed to its inside diameter. The different gas feeds are through perforated tubes on the flat base of the trough. The base of the trough is made of gas feed caissons and the bottom surface of the trough is **porous** or perforated.

USE - Removal of carbon deposits on **solid** objects

ADVANTAGE - Low energy use, with better temperature control than current practice and the flexibility to handle different sizes and shapes of object whilst maintaining a compact design.

DESCRIPTION OF DRAWING(S) - Schematic of invention

Enclosure 100
Flat base 101
Heating zone 101a
Treatment zone 101b
Cooling zone 101c
Object inlet 102
Means of isolation 103
Heating gas inlet 104
Gasification fluid inlet 105
Multipoint distributor 106
Gasification fluid outlet (multipoint collector) 108
Heat exchanger 109
Pipe 111
Compressor 112
Combustion chamber 115
Burner 116
Object outlet 118
Dwg.3/9

FS CPI
FA AB; GI
MC CPI: A11-C07; H04-E; **J04-X**

L34 ANSWER 3 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1999-529906 [45] WPIX
DNN N1999-392728 DNC C1999-156008
TI Reactor for producing hydrogen for fuel cells from methanol.
DC E36 **J04** L03 X16
IN POSCHMANN, T; WIELAND, S
PA (DBBF-N) DBB FUEL CELL ENGINES GMBH; (XCEL-N) XCELLSIS GMBH
CYC 26
PI EP 945174 A1 19990929 (199945)* DE 8p B01J019-24 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
DE 19813053 A1 19990930 (199946) B01J008-00 <--
US 6180081 B1 20010130 (200108) C01B003-02
DE 19813053 C2 20011018 (200161) B01J008-00 <--
ADT EP 945174 A1 EP 1999-104522 19990306; DE 19813053 A1 **DE 1998-19813053 19980325**; US 6180081 B1 US 1999-275798 19990325; DE 19813053 C2 **DE 1998-19813053 19980325**
PRAI **DE 1998-19813053 19980325**

IC ICM **B01J008-00**; **B01J019-24**; C01B003-02
ICS B01D053-22; **B01J008-04**; **B01J035-02**; C01B003-24; C01B003-26; C01B003-32; C01B003-38; C01B003-50; H01M008-06

AB EP 945174 A UPAB: 19991103
NOVELTY - The reactor has **parallel** tubes of hexagonal cross-section, closely **assembled** to leave no gaps, within a containing cylinder. The production hydrogen from steam and methanol is an endothermic reaction requiring temperatures of 150-650 deg. C. The heat is supplied by combustion tubes (4) internally coated with catalytic material (5) embedded in catalytic granules (6) into which the reagents are fed. The hexagonal walls (3) are membranes with a **porous** carrier material coated with layers (10) which permit the selective passage of hydrogen.
USE - For the production of hydrogen for fuel cells by the reaction of methanol and steam.
ADVANTAGE - The efficient reactor is of compact design such that it can be incorporated into a vehicle.
DESCRIPTION OF DRAWING(S) - The figures show a plan view and a section through a schematic representation.
Element tube 3
Combustion tube 4
Catalytic coating 5
Main reactor catalyst 6
Outer cylinder 9
Membrane layer 10
Heater fuel and reagents 13,16
Dwg.1,3/3

FS CPI EPI
FA AB; GI; DCN
MC CPI: E31-A02; **J04-X**; L03-E04; N06
EPI: X16-C

L34 ANSWER 4 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1999-419263 [35] WPIX
DNC C1999-123323
TI Structured packing element for fluid processing and mixing tower.
DC J01 **J04**
IN GRIFFIN, T A; LLOYD, J; PAIKERT, B
PA (ALLM) ABB LUMMUS GLOBAL INC
CYC 83
PI WO 9934911 A1 19990715 (199935)* EN 48p B01J019-32 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
AU 9920969 A 19990726 (199952) B01J019-32 <--
EP 1042064 A1 20001011 (200052) EN B01J019-32 <--
R: AT BE CH DE DK ES FI FR GB GR IT LI NL PT SE
BR 9814581 A 20001010 (200055) B01J019-32 <--
CN 1284895 A 20010221 (200131) B01J019-32 <--
US 6277340 B1 20010821 (200150) B01J008-02 <--
KR 2001033807 A 20010425 (200164) B01J019-32 <--
US 2001038811 A1 20011108 (200171) B01J008-02 <--
JP 2002500093 W 20020108 (200206) 39p B01J019-32 <--
MX 2000006533 A1 20011001 (200274) B01D003-00

ADT WO 9934911 A1 **WO 1998-US27699 19981229**; AU 9920969 A **AU 1999-20969 19981229**; EP 1042064 A1 **EP 1998-965515 19981229**, **WO 1998-US27699 19981229**; BR 9814581 A **BR 1998-14581 19981229, WO 1998-US27699 19981229**; CN 1284895 A **CN 1998-813720 19981229**; US 6277340 B1 **US 1998-2539 19980102**; KR 2001033807 A KR 2000-707359 20000630; US 2001038811 A1 **Cont of US**

**1998-2539 19980102**, US 2001-901245 20010709; JP 2002500093 W **WO 1998-US27699 19981229, JP 2000-527346 19981229**; MX 2000006533 A1 MX 2000-6533 20000630

FDT AU 9920969 A Based on WO 9934911; EP 1042064 A1 Based on WO 9934911; BR 9814581 A Based on WO 9934911; US 2001038811 A1 Cont of US 6277340; JP 2002500093 W Based on WO 9934911

PRAI **US 1998-2539 19980102**; US 2001-901245 20010709

IC ICM B01D003-00; **B01J008-02; B01J019-32**
ICS B01D003-16

AB WO 9934911 A UPAB: 19990902
NOVELTY - The structured packing element for a fluid processing and mixing tower has sheet element with a number of channels (54, 56, 58) extending **parallel** to a vertical axis. A number of vortex generators (24) in each channel form a tortuous fluid path in each channel in the axial direction.

DETAILED DESCRIPTION - Preferred Features: The element should have a number of openings for fluid in each channel to flow to and from adjacent channels. Preferably the sheet material is **porous** and made of sintered metallic fibers. A catalytic material may be attached to the element.

USE - Structured packing for fluid contacting system such as a distillate tower or single or multiphase mixers.

ADVANTAGE - This high efficiency structured packing results in an improved distillation performance. The packing material may be coated with a distillation catalyst for reaction processing of the fluids in a distillation tower.

DESCRIPTION OF DRAWING(S) - The drawing shows an isometric view of a packing structure as claimed.

Tabs 24

Channels 54,56,58

Dwg.1/12

FS CPI
FA AB; GI
MC CPI: J01-A02A; **J04-E**

L34 ANSWER 5 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1999-105815 [09] WPIX
DNC C1999-031596
TI Inductive ignition of gas **phase** reaction in presence of **solid** catalyst - using coil separated from metal catalyst by barrier to prevent reaction from propagating back to inlet and with temperature sustained by reaction.
DC E35 **J04**
IN BUEKER, D J; KOCH, T A; MEHDIZADEH, M; MEHDIZADECH, M
PA (DUPO) DU PONT DE NEMOURS & CO E I; (DUPO) DU PONT DE NEMOURS & CO INC E I
CYC 82
PI WO 9901211 A1 19990114 (199909)* EN 20p B01J012-00 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE GE GW HR HU ID IL IS JP KG KP KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO RU SG SI SK SL TJ TM TR TT UA UZ VN YU

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AU 9882850 | A | 19990125 | (199923) | | | | |
| EP 1001843 | A1 | 20000524 | (200030) | EN | | B01J012-00 | <-- |
| R: BE DE FR GB IT NL | | | | | | | |
| BR 9810493 | A | 20000912 | (200051) | | | B01J012-00 | <-- |
| CN 1261822 | A | 20000802 | (200058) | | | B01J012-00 | <-- |
| AU 727003 | B | 20001130 | (200101) | | | B01J012-00 | <-- |
| SK 9901733 | A3 | 20010312 | (200126) | | | B01J012-00 | <-- |
| MX 2000000105 | A1 | 20000501 | (200129)# | | | B01J012-00 | <-- |
| KR 2001014421 | A | 20010226 | (200156) | | | B01J012-00 | <-- |
| JP 2002507936 | W | 20020312 | (200220) | | 20p | B01J019-08 | <-- |
| EP 1001843 | B1 | 20020424 | (200228) | EN | | B01J012-00 | <-- |

R: BE DE FR GB IT NL
DE 69805079 E 20020529 (200243) B01J012-00 <--
ADT WO 9901211 A1 **WO 1998-US13825 19980702**; AU 9882850 A **AU 1998-82850 19980702**; EP 1001843 A1 **EP 1998-933112 19980702, WO 1998-US13825 19980702**; BR 9810493 A **BR 1998-10493 19980702, WO 1998-US13825 19980702**; CN 1261822 A **CN 1998-806717 19980702**; AU 727003 B **AU 1998-82850 19980702**; SK 9901733 A3 **WO 1998-US13825 19980702, SK 1999-1733 19980702**; MX 2000000105 A1 MX 2000-105 20000103; KR 2001014421 A KR 1999-712605 19991231; JP 2002507936 W **WO 1998-US13825 19980702, JP 1999-507399 19980702**; EP 1001843 B1 **EP 1998-933112 19980702, WO 1998-US13825 19980702**; DE 69805079 E **DE 1998-605079 19980702, EP 1998-933112 19980702, WO 1998-US13825 19980702**
FDT AU 9882850 A Based on WO 9901211; EP 1001843 A1 Based on WO 9901211; BR 9810493 A Based on WO 9901211; AU 727003 B Previous Publ. AU 9882850, Based on WO 9901211; SK 9901733 A3 Based on WO 9901211; JP 2002507936 W Based on WO 9901211; EP 1001843 B1 Based on WO 9901211; DE 69805079 E Based on EP 1001843, Based on WO 9901211
PRAI **US 1997-51659P 19970703**; MX 2000-105 20000103
IC ICM **B01J012-00; B01J019-08**
ICS **B01J008-02; B01J019-00**; C01C003-02
AB WO 9901211 A UPAB: 19990302
Ignition of a catalysed gas **phase** reaction having a reactor vessel (11) with at least one reactant gas inlet means (12) and at least one product outlet means (13) for introducing reactant gas and removing product respectively. A **solid phase** catalyst media (18) within the vessel makes contact with reactant gas passing from the inlet to the outlet and is designed to be heated inductively. An induction coil means (14) within the vessel inductively heats the catalyst and is placed for the gas to pass through it. A **porous** thermal, spark and radiation barrier means (17) is placed between the catalyst and the reactant gas for confining the chemical reaction to the region of the catalyst and preventing the reaction from propagating back towards the inlet. The gaseous reactants are introduced through the inlet, ignited by inductively heating the **solid phase** catalyst media using the inductive coil means as the inductive power source, and discontinuing the induction heating and sustain ing the reaction temperature by use of the exothermic heat of reaction.

USE - Used for igniting a gas **phase** chemical reaction in the presence of a **solid** catalyst.

ADVANTAGE - Improved ignition is achieved by inductively heating the metal catalyst using a coil within the reactor. It allows for scaling up to larger reactor cross-sections without reducing either conversion or selectivity.

Dwg.1/2
FS CPI
FA AB; GI; DCN
MC CPI: E11-K; E32-B; **J04-E01**; N02-E; N02-F

L34 ANSWER 6 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1997-387303 [36] WPIX
DNC C1997-124334
TI **Solid-phase** synthesisers for synthesis of polymers e.g. DNA, RNA, proteins and carbohydrate(s) - has elongated vessel with two ends to hold **solid support** and liquid, each end with **porous** blocker to prevent **solid support** leaving the vessel, but allowing passage of liquid.
DC B04 **J04**
IN EADIE, J S
PA (CHUG-N) CHUGAI BIOPHARMACEUTICALS INC
CYC 18
PI EP 787527 A1 19970806 (199736)* EN 12p B01J019-00 <--

R: AT BE CH DE DK ES FR GB IT LI LU NL SE
WO 9727940 A1 19970807 (199737) EN 25p B01J019-00 <--
W: AU CA JP KR
AU 9714315 A 19970822 (199801) B01J019-00 <--
US 5744102 A 19980428 (199824) 8p C08F002-00 <--
JP 2000503892 W 20000404 (200027) 27p B01J008-06 <--

ADT EP 787527 A1 **EP 1997-300335 19970120**; WO 9727940 A1 **WO 1996-US20798 19961226**; AU 9714315 A **WO 1996-US20798 19961226**, **AU 1997-14315 19961226**; US 5744102 A **US 1996-593631 19960130**; JP 2000503892 W **WO 1996-US20798 19961226**, **JP 1997-527629 19961226**

FDT AU 9714315 A Based on WO 9727940; JP 2000503892 W Based on WO 9727940

PRAI **US 1996-593631 19960130**

REP EP 386238; EP 503683; EP 787527; US 3276751; US 3764112; US 5186824; WO 8501224; WO 9000190

IC ICM **B01J008-06**; **B01J019-00**; C08F002-00
ICS C07H021-00; C07K001-04; C12N015-09

AB EP 787527 A UPAB: 19970909

**Solid-phase** synthesisers for synthesis of polymers comprise: (a) a generally horizontal elongated vessel with two ends to hold a **solid support** and a liquid, each end with a **porous** blocker to prevent the **solid support** from leaving the vessel, but allowing passage of the liquid from the vessel, and (b) a particulate **solid support** held with the vessel, which is of a size sufficient to prevent its passage through the blocker.

The synthesiser comprises an agitator to agitate the **solid support** and the liquid within (a). The synthesiser comprises a vibrator to vibrate the **solid support** and liquid within the vessel and enhance mixing of the **support** and liquid. The synthesiser comprises a vortexer to vortex the **solid support** and liquid within the vessel. The synthesiser comprises a rocker to rock the **solid support** and liquid within the vessel. The synthesiser comprises a rotator to rotate the vessel about its horizontal axis, which is preferably adapted to allow different rotational speeds. The vessel rotates at a speed sufficient to cause mixing of the **solid support** with the liquid but insufficient to cause significant fragmentation of the **support**. The synthesiser comprises a positioner to move the vessel from either a vertical-to-upright or upright-to-vertical position. The synthesiser is of sufficient size to allow polymer synthesis on a scale of at least 20 (preferably at least 500) mmol.

USE - Synthesisers are used in the synthesis of oligodeoxyribonucleotides, oligoribonucleotides and combinational **libraries** (claimed). They are used to produce polymers such as DNA, RNA, proteins and carbohydrates.

ADVANTAGE - Synthesiser allows the production of polymers in large yields.

Dwg.0/3

FS CPI
FA AB
MC CPI: B04-B03C; B04-C02; B04-E01; B04-N04; B11-C01; **J04-B**

L34 ANSWER 7 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1997-156695 [15] WPIX
DNC C1997-050265
TI Use of synthetic granulate or powder in **packing material** - for the removal of liq., gaseous and/or dissolved constituents from a process stream.
DC A97 J01
IN BOS, J; MIDDELHOEK, E L; SCHOMAKER, E
PA (ALKU) AKZO NOBEL NV; (ALKU) AKZO NV; (NOBE-I) NOBELNV A
CYC 19

PI EP 761304 A1 19970312 (199715)* EN 8p B01J020-32 <--
R: AT BE CH DE DK ES FI FR GB IE IT LI LU MC NL PT SE
JP 09103605 A 19970422 (199726) 7p B01D015-00 <--
US 5750030 A 19980512 (199826) B01D015-00 <--
EP 761304 B1 19990929 (199945) EN B01J020-32 <--
R: AT BE CH DE DK ES FI FR GB IE IT LI LU MC NL PT SE
DE 69604466 E 19991104 (199953) B01J020-32 <--
ES 2138786 T3 20000116 (200011) B01J020-32 <--

ADT EP 761304 A1 **EP 1996-202298 19960816**; JP 09103605 A **JP 1996-234650 19960819**; US 5750030 A **US 1996-699003 19960816**; EP 761304 B1 **EP 1996-202298 19960816**; DE 69604466 E **DE 1996-604466 19960816, EP 1996-202298 19960816**; ES 2138786 T3 **EP 1996-202298 19960816**

FDT DE 69604466 E Based on EP 761304; ES 2138786 T3 Based on EP 761304

PRAI **NL 1995-1000997 19950817**

REP 1.Jnl.Ref; DE 3011692; EP 155501; EP 173382; EP 365111; EP 662338; EP 662344; JP 62201642

IC ICM B01D015-00; **B01J020-32**
ICS B01D053-02; **B01J019-30**; **B01J020-26**; C08J009-28

AB EP 761304 A UPAB: 19970410
Use of a synthetic granulate or powder with a particle size of 0.1 to 10 mm as packing material for the removal of liq., gaseous and/or dissolved constituents from a process team is claimed. The packing material is made up of a **porous**, pref. dimensionally stable polymer having an overall **porosity** of 50-95 vol.% which when used as an extracting medium has **pores** of dia. 0.01-50 mu m, with an extracting liq., immobilised therein, or when used as a coalescence medium has a cellular body/window structure with the dia. of more than 50 vol.% of the bodies being in the range of 100-700mu m. The materials can be obtd. by dissolving a polymer in one or more liq. and miscible cpds. at a temp. above the upper critical **phase** separation temp. Tc, followed by lowering the temp. and mechanical diminuttion of the polymer filled with the liq. cpds. opt. followed by removal of the liq. therefrom and, opt. refilling of at least 10% of the pre volume with an extracting liq., characterise in that the polymer soln. incorporates 5-60 vol.% of filler, calculated on the overall **solids** content.

USE - The synthetic granulate or powder is used as packing material for the removal of liq., gaseous and/or dissolved constituents from a process stream. It is useful in industrial scale usages using larger-size columns, as there is no marked deterioration of the homogeneity of the packing after one or two regenerations, as happened in prior art.
Dwg.0/0

FS CPI
FA AB
MC CPI: A12-W11D; J01-D01; J01-E03C

L34 ANSWER 8 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1997-011995 [01] WPIX
DNC C1997-003306
TI Laboratory scale chemical reaction vessel - has solid biomass particles held in the central space of the reactor by a **porous** ring, through which reaction prods. can escape..
DC D15 D16 **J04**
IN LOUVEL, L
PA (RHON) RHONE POULENC CHIM; (RHON) RHONE-POULENC CHIM
CYC 70
PI WO 9636567 A1 19961121 (199701)* FR 25p C02F003-12 <--
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
FR 2734173 A1 19961122 (199703) 23p B01J019-24 <--

AU 9659039 A 19961129 (199712) C02F003-12 <--
US 5897997 A 19990427 (199924) C12M001-12
ADT WO 9636567 A1 **WO 1996-FR729 19960514**; FR 2734173 A1 **FR 1995-6001 19950519**; AU 9659039 A **AU 1996-59039 19960514**; US 5897997 A **WO 1996-FR729 19960514, US 1997-952461 19971113**
FDT AU 9659039 A Based on WO 9636567; US 5897997 A Based on WO 9636567
PRAI **FR 1995-6001 19950519**
REP 1.Jnl.Ref; FR 2317232; JP 62106893; US 5221470
IC ICM **B01J019-24**; C02F003-12; C12M001-12
ICS **B01J008-22**; **B01J016-00**; C02F003-00; C02F003-02
AB WO 9636567 A UPAB: 19970102
Chemical reactions carried out by a biomass are conducted in a cylindrical vessel (1). Its outer wall is made of two cylinders (5, 6). The lower cylinder (5) has a smaller dia. than the upper (6) and they are **linked** by a horizontal ring (7). An inner cylinder (3) is positioned inside the upper cylinder, coaxial with the other two. It has a collar (8) at its lower end which is positioned above the **linking** ring and sepd. from it by a ring of filter material (2).

USE - Vessel for carrying out chemical reactions in the presence of biomass on a small laboratory scale. Biological effluent treatment processes can be assessed and their conditions adjusted in the laboratory, using vessels of vol. 1-10 l.

ADVANTAGE - The biomass is held inside the vessel by the filter material, but reaction fluids can pass through and be drawn off. Trials can be carried out simply and cheaply and many variations can be assessed.

Dwg.1/3
FS CPI
FA AB; GI
MC CPI: D04-A01F; D04-A01J; D05-H; **J04-B**

L34 ANSWER 9 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1996-476890 [47] WPIX
DNC C1996-148935
TI Carrying out two chemical reactions in reactor system - in which heat generated in first reactor bed is transferred to second reactor bed, the beds being continuous **porous** structures.
DC A41 E19 E36 H04 **J04**
IN MULDER, A; POLMAN, E A; VAN, DER WAL W J J; VAN, WINGERDEN A J M; VAN, WAVEREN A; WINGERDEN, A J M
PA (GAST-N) GASTEC NV
CYC 71
PI WO 9632188 A1 19961017 (199647)* EN 33p B01J008-02 <--
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
NL 1000146 C2 19961015 (199702) 35p B01J008-02 <--
AU 9651641 A 19961030 (199708) B01J008-02 <--
EP 869842 A1 19981014 (199845) EN B01J008-02 <--
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV NL PT SE SI
JP 11504563 W 19990427 (199927) 31p B01J008-04 <--
EP 869842 B1 20011010 (200167) EN B01J008-02 <--
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV NL PT SE SI
DE 69615864 E 20011115 (200176) B01J008-02 <--
US 6482375 B1 20021119 (200280) B01J008-02 <--
ADT WO 9632188 A1 **WO 1996-NL163 19960412**; NL 1000146 C2 **NL 1995-1000146 19950413**; AU 9651641 A **AU 1996-51641 19960412**; EP 869842 A1 **EP 1996-908396 19960412, WO 1996-NL163 19960412**; JP 11504563 W **JP 1996-530921 19960412, WO 1996-NL163 19960412**; EP 869842 B1 **EP 1996-908396 19960412, WO 1996-NL163 19960412**; DE 69615864 E **DE 1996-615864**

**19960412, EP 1996-908396 19960412, WO 1996-NL163 19960412; US 6482375 B1 WO 1996-NL163 19960412, US 1998-930943 19980115**

FDT AU 9651641 A Based on WO 9632188; EP 869842 A1 Based on WO 9632188; JP 11504563 W Based on WO 9632188; EP 869842 B1 Based on WO 9632188; DE 69615864 E Based on EP 869842, Based on WO 9632188; US 6482375 B1 Based on WO 9632188

PRAI **NL 1995-1000146 19950413**

REP 3.Jnl.Ref; BE 358876; EP 457352; FR 1491051; FR 1603801; GB 948085; JP 06111838; JP 56166937; JP 63025201; US 3925252; WO 8602016

IC ICM **B01J008-02; B01J008-04**
ICS **B01J012-00; B01J019-24**; F24J001-00

AB WO 9632188 A UPAB: 19961124
Two chemical reactions are carried out in a reactor system consisting of two mutually separate reactor beds, of which the surfaces exposed to the reactants are catalytically active for the chemical reactions, and at least one **partition**. At least one first reactor bed which is a continuous **porous** structure is bounded by and fixed to at least one **partition**. At least one second reactor bed, based on a continuous **porous** structure, in fixed to the **partition** on the other side to the first bed. A heat exchanging contact between the beds is present and the reaction heat of the first chemical reaction carried out in the first bed is supplied or absorbed by carrying out a second chemical reaction in the second bed.

USE - For carrying out endothermic and exothermic chemical reactions in a reactor system e.g. methane-steam reforming and dehydrogenation of ethylbenzene to styrene.

ADVANTAGE - The heat conduct of combined endothermic and exothermic reactions to each other can be optimally adjusted. The required heat can be efficiently transported. System has improved stability.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: A01-D03; E10-D01C; E10-J02B3; E31-A01; H04-E03; H04-E04; **J04-E01**; N06

L34 ANSWER 10 OF 26 WPIX (C) 2003 THOMSON DERWENT

AN 1995-217009 [29] WPIX

DNC C1995-100403

TI **Solid-phase polynucleotide synthesis** - using reaction column contg. fixed bed of **solid support.**

DC B04

IN CHATELAIN, F; KUMAREV, V

PA (GEST) GENSET; (PROL-N) PROLIGO LLC

CYC 22

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| PI | EP 658566 | A1 | 19950621 (199529)* | FR | 22p | C07H021-00 | <-- |
| | R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE | | | | | | |
| | FR 2714061 | A1 | 19950623 (199530) | | | C07H021-00 | <-- |
| | AU 9480432 | A | 19950622 (199536) | | | C07H001-00 | <-- |
| | CA 2138240 | A | 19950617 (199537) | FR | | C07H021-00 | <-- |
| | JP 08239397 | A | 19960917 (199647) | | 19p | C07H021-04 | <-- |
| | EP 658566 | B1 | 19970702 (199731) | FR | 22p | C07H021-00 | <-- |
| | R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE | | | | | | |
| | DE 69404018 | E | 19970807 (199737) | | | C07H021-00 | <-- |
| | ES 2106479 | T3 | 19971101 (199750) | | | C07H021-00 | <-- |
| | AU 693487 | B | 19980702 (199837) | | | C07H001-00 | <-- |
| | US 5869643 | A | 19990209 (199913) | | | C07H001-00 | |
| | TW 349101 | A | 19990101 (199925) | | | C07H021-00 | |
| | US 6469157 | B1 | 20021022 (200273) | | | C07H001-00 | |

ADT EP 658566 A1 **EP 1994-402879 19941214**; FR 2714061 A1 **FR 1993-15164 19931216**; AU 9480432 A **AU 1994-80432 19941215**; CA 2138240 A **CA 1994-2138240 19941215**; JP 08239397 A **JP**

**1994-313790 19941216**; EP 658566 B1 **EP 1994-402879 19941214**; DE 69404018 E **DE 1994-604018 19941214, EP 1994-402879 19941214**; ES 2106479 T3 **EP 1994-402879 19941214**; AU 693487 B **AU 1994-80432 19941215**; US 5869643 A **US 1994-358556 19941214**; TW 349101 A **TW 1994-111150 19941130**; US 6469157 B1 **Div ex US 1994-358556 19941214, Cont of US 1998-119653 19980721**, US 1999-434511 19991105

FDT DE 69404018 E Based on EP 658566; ES 2106479 T3 Based on EP 658566; AU 693487 B Previous Publ. AU 9480432; US 6469157 B1 Div ex US 5869643

PRAI **FR 1993-15164 19931216**

REP EP 114599; EP 130739; EP 181491; EP 375278; EP 541340; WO 8501224; WO 9117823; WO 9202535

IC ICM C07H001-00; C07H021-00; C07H021-04
ICS **B01J008-06; B01J019-00; B01J019-24**; C07H001-02; C07H021-02

AB EP 658566 A UPAB: 19970723

**Solid-phase** polynucleotide synthesis is effected in a reactor in the form of a column through which reagent solns. and/or solvents are circulated. Two embodiments are claimed: (1) the reactor contains a fixed bed of **solid support** and the solns. move through the bed as a series of fronts such that successive solns. in each stage of the synthesis cycle do not mix; (2) the reactor is completely filled with particles of a **porous support** material. Also claimed is a reactor as defined in (1) above, with the modification that the successive solns. undergo little or no mixing. Also claimed is a rector as defined in (2) above, with the proviso that the column is cylindrical. Also claimed is a device comprising a thermostatically controlled reactor as above and a thermostatically controlled collector in which the reagents are collected, heated to reaction temp. and mixed before being introduced into the reactor.

ADVANTAGE - Compared with conventional systems in which the **support** particles are fluidised by the reagent solns., use of a fixed bed allows use of smaller reagent vols. and shorter cycle times and provides a system that can be applied to any scale of synthesis, e.g. 0.05-1 or 50-1000 mu mole.

Dwg.0/2

FS CPI

FA AB

MC CPI: B04-E01

ABEQ EP 658566 B UPAB: 19970731

Process for preparing polynucleotides on a **solid support** in a reactor in the form of a column through which solutions of reagents and/or solvents are circulated, characterised in that the **solid phase** constituting the said **solid support** is immobilised in the said reactor, and the said solutions migrate in the column and through the **solid phase** according to a frontal progression, such that the successive solutions from each step of a synthesis cycle do not mix.

Dwg.0/2

L34 ANSWER 11 OF 26 WPIX (C) 2003 THOMSON DERWENT

AN 1994-295577 [37] WPIX

DNC C1994-134734

TI Prodn. of an active composite with reactive gas in a **porous** support - for reaction with a gas flow, comprising a **porous** support with cavities and an active gas.

DC G04 **J04**

IN PROSDOCIMI, J; TIMONEY, C

PA (ERAP) ELF AQUITAINE

CYC 19

PI EP 616844 A1 19940928 (199437)* FR 14p B01J020-20 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
FR 2702678 A1 19940923 (199438) 19p B01J019-00 <--

CA 2119288 A 19940919 (199444) FR B01J020-20 <--
JP 07068169 A 19950314 (199519) 9p B01J020-28 <--
US 5612272 A 19970318 (199717) 10p B01J020-02 <--
EP 616844 B1 19970827 (199739) FR 14p B01J020-20 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
DE 69405135 E 19971002 (199745) B01J020-20 <--
ES 2110191 T3 19980201 (199811) B01J020-20 <--

ADT EP 616844 A1 **EP 1994-400589 19940317**; FR 2702678 A1 **FR 1993-3145 19930318**; CA 2119288 A **CA 1994-2119288 19940317**; JP 07068169 A **JP 1994-45955 19940316**; US 5612272 A **US 1994-214751 19940318**; EP 616844 B1 **EP 1994-400589 19940317**; DE 69405135 E **DE 1994-605135 19940317, EP 1994-400589 19940317**; ES 2110191 T3 **EP 1994-400589 19940317**

FDT DE 69405135 E Based on EP 616844; ES 2110191 T3 Based on EP 616844

PRAI **FR 1993-3145 19930318**

REP CH 679394; EP 198186; FR 2284371; GB 1194766; WO 9115292

IC ICM **B01J019-00; B01J020-02; B01J020-20; B01J020-28**
ICS **B01J020-32; B01J021-18; B01J037-02;** C04B035-54; C04B038-00; C09K005-00

ICA F25B030-04; F25D005-00

AB EP 616844 A UPAB: 19941109
Process for making an active composite comprising the stages of: a) forming a **porous** support by recompression of an expanded pulverised product b) forming at least one cavity in the **porous** support c) introducing an active agent into the cavities in the **porous** support.
USE - The active composite comprises a support which is chemically inert but a good thermal conductor, providing a very large surface area over which the active agent is dispersed.
ADVANTAGE - This provides a device which will react well with a gas flow, for example in chemical heat pumps.
Dwg.1/11

FS CPI

FA AB; GI

MC CPI: G04-B; J07-A03

ABEQ US 5612272 A UPAB: 19970424
A method for producing an active composite comprises the steps of forming at least two **porous** supports by the compression of expanded pulverulent prod.; forming at least one cavity extending into each **porous** support; forming an **assembly** of the supports; and introducing into each **porous** support an active agent brought into the cavity.
Dwg.0/11

ABEQ EP 616844 B UPAB: 19970926
Method for production of an active compound comprising the steps of: formation of at least two **porous** supports by recompression of an expanded powdered product; formation of at least one cavity which extends in each **porous** support; formation of an **assembly** with the supports, the cavities of each support being disposed inside the **assembly**; and distribution in the mass of the **porous** supports of an active agent, from the cavities.
Dwg.0/10

L34 ANSWER 12 OF 26 WPIX (C) 2003 THOMSON DERWENT

AN 1994-082890 [10] WPIX

DNN N1994-064793 DNC C1994-037933

TI Destabilising spatially extended dynamic system having dynamically coupled variables - by producing differential flow greater than threshold between two variables.

DC B04 **J04** S02

IN MENZINGER, M; ROVINSKY, A

PA (MENZ-I) MENZINGER M; (ROVI-I) ROVINSKY A; (ROVI-I) ROVINSKY A B

CYC 3

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| PI | WO 9404262 | A1 | 19940303 (199410)* | | 83p | B01J019-00 | <-- |
| | AU 9349376 | A | 19940315 (199428) | | | B01J019-00 | <-- |
| | US 5332677 | A | 19940726 (199429) | | 14p | G01N033-00 | <-- |
| | EP 655947 | A1 | 19950607 (199527) | EN | | B01J019-00 | <-- |
| | US 5441890 | A | 19950815 (199538) | | 46p | G01N033-00 | <-- |
| | JP 08500284 | W | 19960116 (199642) | | 77p | B01J019-00 | <-- |

ADT WO 9404262 A1 **WO 1993-CA344 19930820**; AU 9349376 A **AU 1993-49376 19930820**; US 5332677 A **US 1992-932560 19920820**; EP 655947 A1 **EP 1993-918826 19930820, WO 1993-CA344 19930820**; US 5441890 A **CIP of US 1992-932560 19920820, US 1993-68706 19930528**; JP 08500284 W **WO 1993-CA344 19930820, JP 1994-505716 19930820**

FDT AU 9349376 A Based on WO 9404262; EP 655947 A1 Based on WO 9404262; US 5441890 A CIP of US 5332677; JP 08500284 W Based on WO 9404262

PRAI **US 1992-932560 19920820; US 1993-68706 19930528**

REP 02Jnl.Ref; DE 2824061; DE 3519563; DE 4022588

IC **B01J008-02**; **B01J019-08**; G01N021-62

ICM **B01J019-00**; G01N033-00

ICS **B01J008-00**; **B01J008-02**; **B01J019-08**; G01N021-62; G01N037-00

AB WO 9404262 A UPAB: 19940421

Spatially extended dynamic system having at least two dynamically coupled variables is destabilised by producing a differential flow in the system between at least one of the variables and at least one of the remaining variables, the differential flow being greater than a threshold value.

Also claimed are methods as above for (1) increasing reaction yields where the variables are activator and inhibitor variables; (2) for preferentially selecting a reaction channel between two reaction channels in a reaction system having at least two variables which are dynamically destablished to different degrees by inducing differential flow to increase the yield and selectivity of one channel; (3) measuring fluid flow by injecting a dynamically coupled activator inhibitor system into a spatially extended system and producing a differential flow between the activation and inhibition species, and detecting and characterising the spatiotemporal structures to determine fluid flow; and (4) transduction of an analog signal to a digital signal or vice versa by destablising a spatially extended dynamic, periodic, oscillating system having at least two dynamically coupled variables.

The oscillations of the system correspond to discrete events, the system is destabilised by inducing the differential flow between the variables such that the system is characterised by increase of frequency of oscillation proportional to the differential flow, and corresponds to the analog signal amd the digital signal corresponds to the increased frequency of oscillation.

USE/ADVANTAGE - In a wide range of chemical, biological and physical systems, e.g. in solid state semiconductors and superconductors, low temperature plasmas, electrolyte solutions in external fields, heterogeneous catalytic systems, and systems in development biology, physiology immunology, microbiology, epidemiology and population biology etc. Method does not depend on the diffusion coefficients of the key species and therefore has a general applicability in contrast to the Turing predictions.

Dwg.0/0

FS CPI EPI

FA AB; GI

MC CPI: B11-C09; **J04-B01**

EPI: S02-C01

ABEQ US 5332677 A UPAB: 19940907

Spatiotemporal structures are induced in a system by producing between activation and inhibition means a differential flow which is greater than a predeterminable threshold flow. Partic., the means are inhibitor and activator species in a reactive system.

Pref. one species is immobilised in an open support structure and the other is flowed through the structure in a fluid. The system is partic. a chemical or biochemical reaction system or a biological system.

USE/ADVANTAGE - E.g. as applied to a ferroin-catalysed Belousov-Zhabotinsky system in a quasi-unidimensional flow tube with cation-exchange **resin** as the structure with formation of travelling waves, or applied to a semiconductor or superconductor. Allows a homogeneous steady state to be destabilised by a mechanism free of the more severe restrictions of the Turing instability.

Dwg.3b/8

ABEQ US 5441890 A UPAB: 19950927

To destabilise an exothermic reaction system with an activator variable of reaction-generated heat flow dynamically coupled to an inhibitor variable of the mass flow of reactants and reaction products, a differential flow is induced by selective retardation of heat flow w.r.t. mass flow through the system, with the differential flow being greater than a threshold value. Mass flow is pref. longitudinally through a reactor holding **porous** packing which can absorb released heat and is also catalytic. Reactant is pref. injected through the vessel along the length as a cross-flow.

USE/ADVANTAGE - For stable steady state and period and periodic biological, chemical, biochemical and electrochemical systems. Provides a general method which does not depend primarily on the diffusion coeffts. of key species and is applicable to a wide range of systems.

Dwg.1/22

L34 ANSWER 13 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1993-288158 [36] WPIX
CR 1995-036312 [05]
DNN N1993-221653 DNC C1993-128593
TI Gaseous halogenated organic cpds. photochemical oxidn. appts. - comprises UV light source in reactor with internal surface reacting with oxidn. prods. contg. **porous** cementitious material, for ozone depleting cpds..
DC A97 E16 **J04** L02 P35 X25
IN GALAYDA, S J; GUYER, O B; WEIGOLD, T S
PA (PROC-N) PROCESS TECHNOLOGIES INC
CYC 42
PI WO 9316761 A1 19930902 (199336)* EN 50p A62D003-00 <--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA
US 5260036 A 19931109 (199346) 19p B01J020-02 <--
AU 9337747 A 19930913 (199403) A62D003-00 <--
EP 627944 A1 19941214 (199503) . EN <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
US 5374404 A 19941220 (199505) 9p B01J019-12 <--
AU 663775 B 19951019 (199549) A62D003-00 <--
JP 07509381 W 19951019 (199550) 14p A62D003-00 <--
EP 627944 B1 19981028 (199847) EN A62D003-00 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69321825 E 19981203 (199903) A62D003-00 <--
ES 2121998 T3 19981216 (199906) A62D003-00 <--
ADT WO 9316761 A1 **WO 1993-US1475 19930218**; US 5260036 A **US 1992-843422 19920227**; AU 9337747 A **AU 1993-37747 19930218**; EP 627944 A1 **EP 1993-906975 19930218, WO 1993-US1475 19930218**; US 5374404 A **Cont of US 1992-843422 19920227, US 1993-78611 19930615**; AU 663775 B **AU 1993-37747 19930218** ; JP 07509381 W **JP 1993-514962 19930218, WO 1993-US1475 19930218**; EP 627944 B1 **EP 1993-906975 19930218, WO 1993-US1475 19930218**; DE 69321825 E **DE 1993-621825 19930218 , EP 1993-906975 19930218, WO 1993-US1475 19930218**; ES 2121998 T3 **EP 1993-906975 19930218**

FDT AU 9337747 A Based on WO 9316761; EP 627944 A1 Based on WO 9316761; US 5374404 A Cont of US 5260036; AU 663775 B Previous Publ. AU 9337747, Based on WO 9316761; JP 07509381 W Based on WO 9316761; EP 627944 B1 Based on WO 9316761; DE 69321825 E Based on EP 627944, Based on WO 9316761; ES 2121998 T3 Based on EP 627944

PRAI **US 1992-843422 19920227; US 1993-78611 19930615**

REP 2.Jnl.Ref; DE 3907670; DE 3913968; EP 306301; EP 360941; GB 2165827; JP 03284272; JP 52097376; US 4966665; US 5141636

IC ICM A62D003-00; **B01J019-12**; **B01J020-02**
ICS B01D053-32; B01D053-34; B01D053-70; **B01J019-00**

AB WO 9316761 A UPAB: 19971006
The appts. (A) comprises an elongated reactor and a source of UV light. The internal sidewalls of the reactor are lined with a dry **porous** cementitious material which reacts chemically with gaseous oxid. prods. to form **solid** reaction prods. included in the walls.

Pref. a removable chamber liner for appts. (A) comprises a **support** shell lined with the cementitous material and able to accommodate a UV source.

Pref. the appts. (A) is used by feeding a gaseous cpd. to the chamber.

The lining mainly comprises a metastable cpd. of CaO-A1203.xH20 and is pref. prepd. by (i) forming a dry mix contg. (wt. %) 20-33 alumina-based CaO cement, 0-10 CaO, 0-25 Ca(OH)2 and/or Mg(OH)2 50-70 alumina aggreagate and 0-1 foaming agent, (ii) slurrying with 1.5-1.65:1 water to dry mix, and (iii) applying slurry to internal sidewalls of the supporting shell and hardening.

The mix pref. forms to 0.5-3 g/cm3 density and is hardened in the presence of steam at 100 deg.C or above and is dried above 100 deg.C in a dry atmos.

USE - Used to decompose halogenated cpds. and partic. for ozone depleting substances. The reactive lining absorbs hazardous oxidn. prod

Dwg.0/10

FS CPI EPI GMPI

FA AB; DCN

MC CPI: A12-H05; E10-H02B; **J04-X**; L02-D03; L02-G
EPI: X25-X

ABEQ US 5260036 A UPAB: 19940103
Appts. for photochemically oxidising gaseous halogenated organic cpds., comprises: an elongated reaction chamber having a gas inlet and outlet and internal sidewalls of dry, **porous**, cementitious and chemically sorbent material that is reactive with the gas oxidn. prods. producing solid prods. incorporated into the sidewalls; and an ultraviolet light source for oxidising the organic cpds. into oxidn. prods.

USE/ADVANTAGE - Prevents gaseous halogenated cpds. from entering the atmos. and destroying the ozone layer.

Dwg.5/10

ABEQ US 5374404 A UPAB: 19950207
Gaseous organic cpds. are photochemically oxidised in an appts. comprising (A) an elongated reaction chamber provided with a gas inlet and a gas outlet, (B) a source of UV within and along (A) to oxidise the cpds. fed into (A) into gaseous oxidation prods. with (C) the sidewalls of (A) consisting of dry, **porous**, cementitious and chemically sorbent material reactive to the oxidation products to form solid reaction products incorporated into the sidewalls.

The sidewalls material pref. has a density 0.5-3 g/cm3 and consists of a Ca based cement, esp. a metastable cpd. CaO.Al2O3,xH2O, contg. added Ca(OH)2 and/or Mg(OH)2.

USE/ADVANTAGE - To prevent emission of halogenated organic cpds. into the atmosphere and thereby prevent destruction of the O3 layer. Hazardous, potentially toxic explosive or other wise dangerous oxidation products are safely immobilised.

Dwg.4/10

L34 ANSWER 14 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN **1992-367307** [45] WPIX
DNC **C1992-163111**
TI Distn. reaction appts. - has distn.-reaction zone with at least one bed of **solids** spread over perforated **support**.
DC J04
IN ALAGY, J; FORESTIERE, A; LE, PAGE J; MARION, M; VILTARD, J; MARION, M C
PA (INSF) INST FRANCAIS DU PETROLE
CYC 8
PI EP 503990 A1 19920916 (199245)* FR 10p B01J008-02 <--
R: DE ES GB IT NL
FR 2673547 A1 19920911 (199245) 16p B01D003-00 <--
FR 2675055 A1 19921016 (199250) 21p B01D003-22 <--
JP 04317701 A 19921109 (199251) 9p B01D003-16 <--
US 5236663 A 19930817 (199334) 8p B01J035-02 <--
EP 503990 B1 19940601 (199421) FR 11p B01J008-02 <--
R: DE ES GB IT NL
DE 69200154 E 19940707 (199427) B01J008-02 <--
ES 2057965 T3 19941016 (199442) B01J008-02 <--
US 5498318 A 19960312 (199616) 8p B01D003-14 <--
JP 3225320 B2 20011105 (200172) 9p B01D003-16
ADT EP 503990 A1 **EP 1992-400492 19920226**; FR 2673547 A1 **FR 1991-2938 19910308**; FR 2675055 A1 **FR 1991-4611 19910412**; JP 04317701 A **JP 1992-50524 19920309**; US 5236663 A **US 1992-848584 19920309**; EP 503990 B1 **EP 1992-400492 19920226**; DE 69200154 E **DE 1992-600154 19920226, EP 1992-400492 19920226**; ES 2057965 T3 **EP 1992-400492 19920226**; US 5498318 A **Div ex US 1992-848584 19920309, US 1993-100801 19930802**; JP 3225320 B2 **JP 1992-50524 19920309**
FDT DE 69200154 E Based on EP 503990; ES 2057965 T3 Based on EP 503990; US 5498318 A Div ex US 5236663; JP 3225320 B2 Previous Publ. JP 04317701
PRAI **FR 1991-2938 19910308**; **FR 1991-4611 19910412**
REP DE 1075613; EP 390596; EP 448884; FR 1193952; GB 1019236
IC ICM B01D003-00; B01D003-14; B01D003-16; B01D003-22; **B01J008-02**; **B01J035-02**
ICS **B01J008-04**; **B01J019-30**; **B01J019-32**; **B01J032-00**; C07C041-06; C07C043-04
AB EP 503990 A UPAB: 19931116
An appts. for distn.-reaction comprises at least one zone of distn.-reaction including at least one bed of **solids** spread over a perforated **support** allowing passage of fluids and having sufficiently small perforations to retain and having sufficiently small perforations to retain the **solids**. The **solids** in bulk consists of catalytic particles and containers whose external walls are **permeable** to the fluids and **impermeable** to the **solid** catalyst grains. The containers have sufficient mechanical strength to resist deformation by the bulk catalyst and 1-99% of these containers are filled with a distn. packing. USE/ADVANTAGE - The appts. is used for chemical reactions and the fractionation of the reaction mixts., partic. in the prodn. of ethers by reaction of olefins 3-8C with alcohols 1-6C with or without a **solid** catalyst in the form of **solid** particles. The ether formed is continuously recovered
Dwg.0/4
FS CPI
FA AB
MC CPI: J01-A02A; J04-E02; J04-X; N06-D
ABEQ US 5236663 A UPAB: 19931119
Appts. for preparing an ether by reacting olefins with alcohols comprises two reaction-distillation zones, sepd. by a zone contg. a liquid redistribution plate, with another plate above zone.
Each zone contains loose granular catalyst and receptacles on a perforated **support** associated with a fine screen, with a perforated screen above. Receptacles contain a distillation packing body

and can withstand wt. of catalyst particles.
ADVANTAGE - Very effective reaction and distillation.
Dwg.0/5

ABEQ EP 503990 B UPAB: 19940715
A reaction-distillation apparatus comprising: at least one reaction-distillation zone including at least one bed of **solid** elements disposed on a perforated **support** which gives passage to fluids and the perforations of which are small enough to retain said elements, the bed of **solid** elements including loose **solid** catalytic particles and a plurality of receptacles, the external jacket of which is **permeable** to fluids and **impermeable** to the **solid** catalytic particles, said receptacle having adequate mechanical properties to withstand the load of the loose catalyst without excessive deformation, characterised in that from 1 to 100% of the receptacles contain at least one distillation packing body.
Dwg.0/5

ABEQ US 5498318 A UPAB: 19960422
In a method of reacting at least one 3-8C olefin with at least one 1-6C alcohol and concomitantly fractionating the reaction mixture to obtain at least one ether product, the improvement comprising: introducing at least one olefin and at least one alcohol into at least one reaction-distillation zone contg. at least one bed of **solid** elements disposed on a fluid-**permeable**, perforated **support** having perforations sufficiently small to retain said **solid** elements, passing a gas and a liquid through at least one bed of **solid** elements and through **support**,
bed of **solid** elements comprising loose **solid** catalytic particles and several receptacles having external jackets **permeable** to fluids and **impermeable** to **solid** catalytic particles whereby receptacles cause disruption of gas and liquid passing through at least one bed, receptacles having sufficient mechanical properties to withstand the load of loose **solid** catalytic particles, and 1-100% of receptacles contain at least one distillation packing body, concomitantly reacting at least one olefin and at least one alcohol, fractionating reaction mixture at a reflux ratio relative to distillate of 0.1:1-20:1, a temp. of 10-200 deg.C., and a pressure of 100-3000 kPa, and continuously recovering at least one ether product.
Dwg.0/4

L34 ANSWER 15 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1991-370953 [51] WPIX
DNC C1991-159898
TI Reactor contg. **partitions** with layers of flexible refractory material - useful in vapour phase re-forming of petroleum fractions and particularly synthesis of methanol.
DC E17 H04 **J04**
IN POUSSIN, B
PA (INSF) INST FRANCAIS DU PETROLE
CYC 16

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|---|---|---|---|---|---|---|---|
| PI | EP 461988 | A | 19911218 (199151)* | | | | <-- |
| | R: BE DE ES FR GB IT NL SE | | | | | | |
| | AU 9178387 | A | 19911219 (199207) | | | | <-- |
| | NO 9102286 | A | 19911216 (199207) | | | | <-- |
| | FR 2663243 | A | 19911220 (199210) | | | | <-- |
| | FR 2663244 | A | 19911220 (199210) | | | | <-- |
| | CA 2044705 | A | 19911216 (199211) | | | | <-- |
| | JP 04227046 | A | 19920817 (199240) | | 10p | B01J008-02 | <-- |
| | FR 2676373 | A1 | 19921120 (199303) | | 20p | B01J008-02 | <-- |
| | ZA 9104560 | A | 19930127 (199310) | | 34p | B01J000-00 | <-- |
| | US 5202097 | A | 19930413 (199317) | | 9p | B01J035-02 | <-- |
| | AU 640792 | B | 19930902 (199342) | | | B01J008-04 | <-- |
| | EP 461988 | B1 | 19940105 (199402) | FR | 15p | B01J008-02 | <-- |

R: BE DE ES FR GB GR IT NL SE

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| DE 69100926 | E 19940217 (199408) | | | B01J008-02 | <-- |
| ES 2050512 | T3 19940516 (199423) | | | B01J008-02 | <-- |
| NO 177042 | B 19950403 (199518) | | | B01J008-02 | <-- |
| KR 185990 | B1 19991001 (200108) | | | B01J008-02 | <-- |
| CA 2044705 | C 20011120 (200176) | FR | | B01J019-02 | <-- |
| JP 3277283 | B2 20020422 (200234) | | 11p | B01J008-02 | <-- |

ADT EP 461988 A **EP 1991-401533 19910611**; FR 2663243 A **FR 1990-7614 19900615**; FR 2663244 A **FR 1990-7615 19900615**; JP 04227046 A **JP 1991-143470 19910614**; FR 2676373 A1 **FR 1991-5997 19910516**; ZA 9104560 A **ZA 1991-4560 19910614**; US 5202097 A **US 1991-715191 19910614**; AU 640792 B **AU 1991-78387 19910614**; EP 461988 B1 **EP 1991-401533 19910611**; DE 69100926 E **DE 1991-600926 19910611, EP 1991-401533 19910611**; ES 2050512 T3 **EP 1991-401533 19910611**; NO 177042 B **NO 1991-2286 19910613**; KR 185990 B1 **KR 1991-9800 19910614**; CA 2044705 C **CA 1991-2044705 19910614**; JP 3277283 B2 **JP 1991-143470 19910614**

FDT AU 640792 B Previous Publ. AU 9178387; DE 69100926 E Based on EP 461988; ES 2050512 T3 Based on EP 461988; NO 177042 B Previous Publ. NO 9102286; JP 3277283 B2 Previous Publ. JP 04227046

PRAI **FR 1990-7614 19900615; FR 1990-7615 19900615 ; FR 1991-5997 19910516**

REP US 2961304; US 4374095

IC ICM **B01J000-00; B01J008-02; B01J008-04; B01J019-02; B01J035-02**
ICS B01D000-00; **B01J019-24**; C01G000-00; C07C029-15; C07C029-152; C07C031-04; C10G035-00

AB EP 461988 A UPAB: 19930928
Reactor is for effecting vapour phase chemical reactions at a given temp.. One section contains at least one particulate filler in which at least one gas or liq. circulates radically or transversely. The section also comprises an upper **partition** wall having at least one layer of an appropriate flexible refractory material which is practically inert and **impermeable** or which has a **porosity** such that a loss of charge greater than engendered by the particulate filler occurs. Layer is distributed over the particulate filler to give complete coverage.

Layers are disposed as alternating felt and fbaric parts of a ceramic material which has a good tensile resistance at high temp., e.g. 15000-28000 kg/cm2 between 370-540 deg C and **porosity** between 3-5%.

These can be combined with other metallic oxides (e.g., alkali(ne earth) B etc.). A typical textile is ZETEX which has the compsn.: SiO2 (52-60%), CaO (16-25%), Al2O3 (10-13%), B2O3 (8-13%), Na2O (0-1%), MgO (0-6%) and has a tensile resistance of about 17,400 kg/cm2 at 540 deg C.
USE/ADVANTAGE - Reactor is used mainly for reforming petroleum cuts in partic. aromatisation of petroleum cuts and the synthesis of methanol. Operating pressures may be 1-200 bar. Former reactor designs have been unsatisfactory due to inflexibility and inefficient use of the catalyst - 8-15% (by vol.) is un-used thus creating 'dead zones'. Design leads to increased efficiency and ease of replenishment of the catalyst. Radial flow of gas is induced rather than axial flow as in previous systems.
@(13pp Dwg.No.0/1)

FS CPI

FA AB; DCN

MC CPI: E10-E04E1; E10-J02B3; E10-J02D; E11-H; H04-C02; H04-E01; H05-X; **J04-E02**; N06

ABEQ US 5202097 A UPAB: 19931025
Appts. comprises (1) a reactor vessel; (2) a first sleeve in the vessel defining an annular fluid distribution envelope; (3) a second sleeve in the vessel defining an annular space, both sleeves being **permeable** to a reaction fluid; (4) upper and lower walls sealing the annular space and so defining an annular compartment which is filled with reaction

catalyst particles; and (5) a feed inlet in flow communication with the distribution envelope, so the introduced reaction fluid radially or transversely circulates through the compartment.

The upper wall comprises a layer of flexible refractory material which is inert to the chemical reaction and **impermeable** to the reaction fluid and has a texture and **porosity** that produces a pressure drop higher than that produces by the compartment of catalyst particles.

USE/ADVANTAGE - For a reactor for carrying out gas phase chemical reactions and for filtering particles in a liq. phase and avoids formation of dead zones at the top of the bed, allowing max. filling capacity to be achieved and allows the flexibility of various gas or liquids to be used.
Dwg.0/11

ABEQ EP 461988 B UPAB: 19940223
Reactor for performing gas phase chemical reactions at a given temperature, comprising an input of a gaseous charge and an output of an effluent, an annular casing for distributing the charge which communicates with the input of said charge, at least one annular compartment between said casing and said output with at least one lining in the form of particles, in which radially or transversely circulates at least one gas or liquid, the compartment also having an upper wall, characterised in that it has as the upper wall at least one layer of at least one appropriately shaped flexible refractory material which is substantially inert and substantially **impermeable** or which has a texture and a **porosity** such that the said layer produces a pressure drop higher than that produced by the particulate lining, said material layer being placed on the lining so as to ensure a substantially total covering of the said lining.
Dwg.0/11

L34 ANSWER 16 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1991-289407 [40] WPIX
DNC C1991-125097
TI Mass transfer devices for catalytic distn. - with gas-**permeable** wall surrounding open space and catalyst particles between devices.
DC J01 **J04**
IN BUCHOLZ, M; PINAIRE, R; ULOWETZ, M A; BUCHHOLZ, M
PA (KOCH-N) KOCH ENG CO INC
CYC 17
PI EP 448884 A 19911002 (199140)* <--
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
CA 2033478 A 19911001 (199151) <--
NZ 237144 A 19930727 (199333) B01J008-02 <--
US 5275790 A 19940104 (199402) 9p B01J008-00 <--
EP 448884 B1 19950524 (199525) EN 10p B01D003-00 <--
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69019731 E 19950629 (199531) B01D003-00 <--
ES 2072403 T3 19950716 (199535) B01D003-00 <--
ADT EP 448884 A **EP 1990-314301 19901227**; NZ 237144 A **NZ 1991-237144 19910218**; US 5275790 A **Cont of US 1990-501493 19900330, US 1992-954703 19920930**; EP 448884 B1 **EP 1990-314301 19901227**; DE 69019731 E **DE 1990-619731 19901227 , EP 1990-314301 19901227**; ES 2072403 T3 **EP 1990-314301 19901227**
FDT DE 69019731 E Based on EP 448884; ES 2072403 T3 Based on EP 448884
PRAI **US 1990-501493 19900330**
REP DE 1075613; FR 1554093; FR 2278033
IC B01D003-00; **B01J008-02**; **B01J019-30**
ICM **B01J008-02**
ICS B01D003-00; **B01J019-30**; **B01J019-32**; **B01J035-02**
AB EP 448884 A UPAB: 19930928
Appts. provides mass transfer and catalytic reaction zones for fluid

streams in a mass transfer column flowing through the appts. The appts. has gas-**permeable** mass transfer devices each with a wall surrounding an open space. A particulate solid catalyst is placed around and between the devices. The catalyst particles have **pore** spaces forming channels for the flow of fluid. The catalyst bed forms a catalytic reaction zone.

Pref. the wall has open passages covered by a screen to prevent the catalyst particles from entering it.

A device comprising rigid hollow structures esp. spheres, each with apertures and an open space inside, for use in a mass transfer column, is also claimed.

USE/ADVANTAGE - Used for catalytic distillation. The system can be loaded rapidly, so down time is minimised.

0/7

FS CPI
FA AB
MC CPI: J01-A02A; **J04-E01**
ABEQ US 5275790 A UPAB: 19940223

The mass transfer column comprises (i) means for presenting an elongated upright open column structure; (ii) mass transfer devices each having a wall of **mesh** like material enclosing an open interior space. The wall being fluid **permeable** and catalyst **impermeable**;
(iii) loose catalyst particles in the column and around and between the mass transfer devices to present a catalyst bed comprising a catalyst reaction zone through which a fluid stream may flow and be catalytically reacted.

The mass transfer devices present a mass transfer zone, are present at any given horizontal cross-section of the column and are at least partially surrounded by loose catalyst particles to present both catalyst particles and devices being in the same horizontal plane. All of the devices are in physical contact with at least one adjacent device to interconnect the interior spacer so continuous, catalyst-free fluid stream flow channels are formed by the interconnected interior spaces and extend through the catalyst bed. The flow channels permit another fluid stream to flow through the catalyst bed and pass from one device to another device without contacting the loose catalyst particles.

USE/ADVANTAGE - The mass transfer device and catalyst bed allow concurrent catalytic chemical reaction and distn. of reaction prods. within the structure (claimed).

Dwg.0/7

ABEQ EP 448884 B UPAB: 19950630

Apparatus (14) for providing mass transfer and catalytic reaction zones for fluid streams in a mass transfer column (10) the apparatus containing a catalyst bed of loose solid catalyst particles with **pore** spaces; a plurality of hollow mass transfer devices (16) each having a fluid-**permeable**, catalyst particle-**impermeable** wall
(20) surrounding an open interior space, the devices (16) presenting a mass transfer zone; adjacent devices being in contact with one another to provide first flow channels for a first fluid stream substantially from device to device and through the interior spaces of the devices; and the voids around and between the devices containing the catalyst particles which provide through the **pore** spaces second flow channels for a second fluid stream substantially between the devices, whereby the catalyst bed presents a catalytic reaction zone.

Dwg.1/7

L34 ANSWER 17 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1991-165907 [23] WPIX
CR 1989-009828 [02]
DNC C1991-071784
TI Chemical reactor utilises heat to decompose raw gas - having two chambers sepd. by **partition** contg. heat radiator in one and heat sink in other.

DC E36 H04 **J04**
IN AOKI, M; ECHIGO, R; IDE, Y; IKEDA, M; IWASA, K; ONOMURA, M; SHIMIZU, R; YAMANA, N; YOSHIZAWA, Y
PA (CHIY) CHIYODA CORP; (ISHI) ISHIKAWAJIMA HARIMA JUKOGYO KK; (KOBM) KOBE SEIKO SHO KK; (MITO) MITSUBISHI JUKOGYO KK; (MITP) MITSUBISHI PETROCHEMICAL ENG CO LTD; (RYOK-N) RYOKA TECHNO ENG & CONSTR CO; (TOKD) TOKYO INST TECHNOLOGY; (TOKE) TOSHIBA KK
CYC 4
PI EP 430379 A 19910605 (199123)* <--
R: DE FR GB
EP 430379 B1 19930915 (199337) EN 7p B01J019-00 <--
R: DE FR GB
DE 3884228 G 19931021 (199343) B01J019-00 <--
JP 06031352 B2 19940427 (199415) 4p C10K003-02 <--
ADT EP 430379 A **EP 1990-203205 19880708**; EP 430379 B1 **Related to EP 1988-306274 19880708, EP 1990-203205 19880708**; DE 3884228 G **DE 1988-3884228 19880708, EP 1990-203205 19880708**; JP 06031352 B2 **JP 1987-172614 19870710**
FDT DE 3884228 G Based on EP 430379; JP 06031352 B2 Based on JP 01016892
PRAI **JP 1987-172614 19870710; JP 1987-172615 19870710**
REP FR 1327210; US 4714593; WO 8602016
IC **B01J008-06**; **B01J019-00**; C01B003-38
ICM **B01J019-00**; C10K003-02
ICS **B01J008-02**; **B01J008-06**; C01B003-38
AB EP 430379 A UPAB: 19940608
A chemical reactor which utilises heat to effect the decomposition of a raw gas mixt. (a) has two chambers sepd. by a **partition** wall; (b) a **porous** heat radiating body being disposed in one of the 1st chambers; and (c) a **porous** heat-receiving body in which a catalyst is dispersed being disposed in the other chamber; in which, in use (d) the heat radiating body is heated by high temp. combustion gas flowing through it; and (e) heats a raw gas mixt. flowing through it and causes it to react; such that (f) the downstream portion of the heat-receiving body in the direction of flow of the raw gas mixture contains catalyst material dispersed therein; and (g) the upstream portion thereof contains no catalyst material.

ADVANTAGE - Effective utilisation of the catalyst material is achieved by ensuring that the previously low-temperature portion of the heat-receiving body becomes a high temp. portion, so reducing the amt. of expensive catalyst material necessary so reducing the capital, operational and maintenance costs of the reactor. @(9pp
FS CPI
FA AB; DCN
MC CPI: E31-A01; H04-E04; **J04-E02**; N06
ABEQ EP 430379 B UPAB: 19931123
A chemical reactor having two chambers separated by a **partition** wall, a **porous** heat radiating body being disposed in one of the chambers and a **porous** heat-receiving body in which a catalyst is dispersed being disposed in the other chamber, whereby, in use, the heat radiating body is heated by high temperature combustion gas flowing through it and transmits heat to the heat-receiving body which heats a raw gas mixture flowing through it and causes it to react, characterised in that the downstream portion of the heat-receiving body in the direction of flow of the raw gas mixture contains catalyst material dispersed therein and the upstream portion thereof contains no catalyst material.
Dwg.0/5

L34 ANSWER 18 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN **1991-150263** [21] WPIX
DNC **C2000-001598**
TI Structure for use in catalytic reaction and distillation column - has pairs of **permeable** corrugated plates, aligned in spaced-apart **parallel** relationship, which enclose particulate catalytic

material.
DC A18 E19 J01 J04
IN BUCHHOLZ, M; GELBEIN, A P
PA (GELB-I) GELBEIN A P; (KOCH-N) KOCH ENG CO INC; (KOCH-N) KOCH-GLITSCH INC
CYC 20
PI EP 428265 A 19910522 (199121)* 7p <--
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
AU 9064874 A 19910516 (199127) <--
CA 2027512 A 19910514 (199130) <--
JP 03178334 A 19910802 (199137) <--
US 5073236 A 19911217 (199202) 9p <--
NZ 236989 A 19930727 (199333)# B01J008-02 <--
JP 07029047 B2 19950405 (199518) 7p B01J019-32 <--
EP 428265 B1 19970226 (199714) EN 13p B01J019-32 <--
R: DK ES GR LU
ES 2098255 T3 19970501 (199724) B01J019-32 <--
KR 136086 B1 19980425 (200001)# B01D003-26 <--
EP 428265 B2 20000517 (200028) EN B01J019-32 <--
R: DK ES GR LU
CA 2027512 C 20020312 (200223) EN B01J008-02 <--
ADT EP 428265 A **EP 1990-311157 19901011**; JP 03178334 A **JP 1990-304195 19901113**; US 5073236 A **US 1989-434342 19891113**; NZ 236989 A **NZ 1991-236989 19910201**; JP 07029047 B2 **JP 1990-304195 19901113**; EP 428265 B1 **EP 1990-311157 19901011**; ES 2098255 T3 **EP 1990-311157 19901011**; KR 136086 B1 **KR 1991-2787 19910221**; EP 428265 B2 **EP 1990-311157 19901011**; CA 2027512 C **CA 1990-2027512 19901012**
FDT JP 07029047 B2 Based on JP 03178334; ES 2098255 T3 Based on EP 428265
PRAI **US 1989-434342 19891113**; **NZ 1991-236989 19910201**; **KR 1991-2787 19910221**
REP DE 1904144; EP 130745; US 4242530; US 4296050; US 4439350; US 4443559; EP 396650
IC B01D003-26; **B01J008-04**; **B01J019-32**; **B01J035-04**
ICM B01D003-26; **B01J008-02**; **B01J019-32**
ICS B01D003-00; B01D003-16; **B01J008-04**; **B01J035-04**
AB EP 428265 A UPAB: 20000124
Structure for use in a catalytic reaction and distillation column is built up from pairs of corrugated plates arranged in spaced-apart **parallel** relationship to one another. The plates are **permeable** to both vapour and liquid, and the space between them is substantially filled with particulate catalytic material. The structure comprises a number of vertically spaced rows of such plate pairs, and is disposed within the process column.

USE/ADVANTAGE - The structure is useful in processes such as dimerisation, polymerisation, etherification, esterification, isomerisation and alkylation. It reduces both pressuree drop within the column and channeling of the catalyst, thereby improving process efficiency. The plates which enclose and support the catalytic material can be re-used.

Dwg.0/11
FS CPI
FA AB
MC CPI: A10-B01; J01-A02A; J04-E02
ABEQ US 5073236 A UPAB: 19930928
Reaction and distillation structure comprises vertically extending vapour **permeable** plates in closely spaced adjacent pairs, and at least are plate of each pair having catalyst receiving areas and the other plate retaining the catalyst. Adjacent pairs of plates are in contact with each other.

ADVANTAGE - Improved distillation.
ABEQ EP 428265 B UPAB: 19970407
A structure (10) for providing concurrent catalytic reaction with distillation of fluid streams, the structure comprising a number of

vertically extending, liq. and vapour **permeable** plates (14, 16) disposed in facing pairs and presenting a number of open areas between the plates of each pair, a catalyst bed (22) filling at least some of the open areas; and means for retaining the catalyst (24) in the open areas; characterised by each adjacent pair of plates being in contact with at least one adjoining pair to present a number of contiguous pairs of plates, at least one of the contacting plates of contiguous pairs being corrugated whereby the contiguous pairs present flow channels between them.
Dwg.1/10

L34 ANSWER 19 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1991-082328 [12] WPIX
DNC C1991-035032
TI Gas phase oxidn. reactor with controlled pressure gradients - comprises mixing region with feed tubes for oxidant and oxidising gases, reaction region and prod. evacuation region.
DC E36 H04 **J04**
IN ALAGY, J; BROUTIN, P; BUSSON, C; GOUGNE, Y; WEILL, J
PA (INSF) INST FRANCAIS DU PETROLE
CYC 11
PI

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|---|---|---|---|---|---|---|---|
| EP 418122 | A | 19910320 | (199112)* | | | | <-- |
| R: DE FR GB IT NL | | | | | | | |
| AU 9062367 | A | 19910321 | (199119) | | | | <-- |
| FR 2651689 | A | 19910315 | (199120) | | | | <-- |
| NO 9003937 | A | 19910313 | (199120) | | | | <-- |
| CA 2025156 | A | 19910313 | (199121) | | | | <-- |
| JP 03109939 | A | 19910509 | (199125) | | | | <-- |
| FR 2663561 | A | 19911227 | (199211) | | 25p | | <-- |
| FR 2663562 | A | 19911227 | (199211) | | 22p | | <-- |
| FR 2663563 | A | 19911227 | (199211) | | 16p | | <-- |
| ZA 9007208 | A | 19921125 | (199301) | | 59p | B01J000-00 | <-- |
| US 5186910 | A | 19930216 | (199309) | | 19p | B01J008-02 | <-- |
| AU 641177 | B | 19930916 | (199344) | | | F23M011-00 | <-- |
| EP 418122 | B1 | 19931118 | (199346) | FR | | B01J012-00 | <-- |
| R: DE FR GB IT NL | | | | | | | |
| DE 69004645 | E | 19931223 | (199401) | | | B01J012-00 | <-- |
| NO 178328 | B | 19951127 | (199601) | | | B01J012-00 | <-- |
| JP 3079312 | B2 | 20000821 | (200043) | | 20p | B01J019-24 | <-- |
| CA 2025156 | C | 20001114 | (200063) | FR | | B01J019-24 | <-- |

ADT EP 418122 A **EP 1990-402439 19900905**; FR 2651689 A **FR 1989-12016 19890912**; JP 03109939 A **JP 1990-243691 19900912**; FR 2663561 A **FR 1990-7913 19900621**; FR 2663562 A **FR 1990-7914 19900621**; FR 2663563 A **FR 1990-7915 19900621**; ZA 9007208 A **ZA 1990-7208 19900911**; US 5186910 A **US 1990-582426 19900912**; AU 641177 B **AU 1990-62367 19900911**; EP 418122 B1 **EP 1990-402439 19900905**; DE 69004645 E **DE 1990-604645 19900905, EP 1990-402439 19900905**; NO 178328 B **NO 1990-3937 19900910**; JP 3079312 B2 **JP 1990-243691 19900912**; CA 2025156 C **CA 1990-2025156 19900912**
FDT AU 641177 B Previous Publ. AU 9062367; DE 69004645 E Based on EP 418122; NO 178328 B Previous Publ. NO 9003937; JP 3079312 B2 Previous Publ. JP 03109939
PRAI **FR 1989-12016 19890912**; **FR 1990-7913 19900621** ; **FR 1990-7914 19900621**; **FR 1990-7915 19900621**
REP EP 221813; EP 231706; US 3467504
IC ICM **B01J000-00**; **B01J008-02**; **B01J012-00**; **B01J019-24**; F23M011-00
ICS B01F003-02; **B01J004-00**; **B01J008-04**; **B01J032-00**; **B01J035-04**; C01B003-36; C01B003-38; C01B031-18; C01B031-20; C07C059-52; F27D001-00
AB EP 418122 A UPAB: 19930928

Oxidation reactor comprising mixing region (3) with feed tubes for oxidant (1), and oxiding gases (2), reaction region (4) at a distance at least equal to the oxidation flame boundary, and reaction product evacuation region (5). (4) comprises central zone with a facing having multiple apertures with at least one dimension at least equal to the oxidation flame boundary, and a peripheral zone with a facing having smaller apertures, the latter forming a cylindrical coupling (10) between (3) and (4). The ratio of the aperture sizes, preferably 2-1000, is such that the pressure drop across the peripheral zone is greater than that across the central zone, specifically 10 Pa - 0.5 MPa, preferably 100 Pa - 0.4 MPa. Specifically the central zone is made of a hard ceramic material, preferably of **assembled** elements, optionally supporting a catalyst. The peripheral zone is made of a refactory thermally insulating material, specifically ceramic fibres.

Use of reactor for gas phase oxidation, specifically that of hydrocarbons by a gas contg. oxygen, controlling temperature and pressure drop such that substantially complete reaction occurs in (4).

ADVANTAGE - Prolonged operation at temps. up to 1400 deg.C. without danger or explosion or overheating of the mixing or reaction zones. Increased durability of the reactor materials.

0/11

FS CPI

FA AB; DCN

MC CPI: E10-E04E; E11-E; E32-A01; H04-E05; **J04-X**

ABEQ US 5186910 A UPAB: 19930928

Oxidn. reactor consists of an elongated vertical cylinder (R) with a mixer (3) at the centre with means for feeding oxidisable charge (1) and oxidising gas (2). A reaction member (4) has an overall nozzle shape and is formed from thin single elements (7), each contg. channels of square cross section. It is positioned no greater than a flame pinching distance from the mixing member.

ADVANTAGE - Mechanically strong, low cost, excessive heat effects avoided.

2/11

ABEQ EP 418122 B UPAB: 19940103

An oxidation reactor R of elongated shape comprising in combination: at least one mixing member (3) comprising means (2) for feeding oxidising gag and means (1) for feeding oxidisable charge, at least one reaction member (4), following said mixing member and located at a distance therefrom which is no greater than the flame pinching distance, and at least one member (5) for discharging the products of the reaction, connected to said reaction member. The reaction member comprising a central zone, which over at least part of its cross-section has at least one first lining, adapted to define a multiplicity of spaces providing passages which, in at least one direction, have a dimension no greater than the pinching distance of the flame which may result from oxidation of said charge the oxidation reactor being characterised in that it contains at least one peripheral zone which, over at least part of its cross-section, has at least one second lining, having ceramic fibres forming a sleeve (10) which surrounds said first lining, said sleeve having a **porosity** which is at least 50% of its volume and being adapted to define a multiplicity of spaces providing passages which, in at least one direction, have a dimension from 2 to 1000 times smaller than the dimension of the passages in the central zone, so that the pressure loss in the second lining is greater than that in the first lining.

L34 ANSWER 20 OF 26 WPIX (C) 2003 THOMSON DERWENT

AN 1991-081737 [12] WPIX

DNC C1991-034747

TI Packing rings etc. made from **macroporous** ion-exchange **resins** - by combining catalytic and sepn. functions in wide range of reactions, e.g. etherification, hydration.

DC E17 H06 **J04**

IN FLATO, J; GOTTLIEB, K; GRAF, W; HOFFMANN, U; REHFINGER, A; SCHADLICH, K; SCHAEDLICH, K; HOFFMAN, U

PA (SCOV) VEBA OEL AG; (GOTT-I) GOTTLIEB K

CYC 20

PI

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EP 417407 | A | 19910320 (199112)* | | | | <-- |
| R: AT BE CH DE ES FR GB GR IT LI LU NL SE | | | | | | |
| DE 3930515 | A | 19910321 (199113) | | | | <-- |
| AU 9059822 | A | 19910321 (199119) | | | | <-- |
| CA 2024758 | A | 19910314 (199121) | | | | <-- |
| FI 9004507 | A | 19910314 (199123) | | | | <-- |
| JP 03207728 | A | 19910911 (199143) | | | | <-- |
| DD 299192 | A5 | 19920402 (199235) | | | C08J005-20 | <-- |
| AU 635757 | B | 19930401 (199320) | | | B01J019-30 | <-- |
| US 5244929 | A | 19930914 (199338) | | 12p | C08F005-20 | <-- |
| EP 417407 | B1 | 19940511 (199419) | DE | 22p | B01J031-08 | <-- |
| R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE | | | | | | |
| DE 59005672 | G | 19940616 (199425) | | | B01J031-08 | <-- |
| ES 2054154 | T3 | 19940801 (199432) | | | B01J031-08 | <-- |
| FI 101267 | B1 | 19980529 (199828) | | | B01J019-30 | <-- |
| CA 2024758 | C | 20000321 (200033) | EN | | B01J039-20 | <-- |
| JP 3148224 | B2 | 20010319 (200125) | | 17p | C08J005-20 | |

ADT EP 417407 A **EP 1990-111500 19900619**; DE 3930515 A **DE 1989-3930515 19890913**; JP 03207728 A **JP 1990-239131 19900911** ; DD 299192 A5 **DD 1990-343956 19900911**; AU 635757 B **AU 1990-59822 19900725**; US 5244929 A **Cont of US 1990-581529 19900912, US 1992-882770 19920511**; EP 417407 B1 **EP 1990-111500 19900619**; DE 59005672 G **DE 1990-505672 19900619 , EP 1990-111500 19900619**; ES 2054154 T3 **EP 1990-111500 19900619**; FI 101267 B1 **FI 1990-4507 19900912**; CA 2024758 C **CA 1990-2024758 19900906**; JP 3148224 B2 **JP 1990-239131 19900911**

FDT AU 635757 B Previous Publ. AU 9059822; DE 59005672 G Based on EP 417407; ES 2054154 T3 Based on EP 417407; FI 101267 B1 Previous Publ. FI 9004507; JP 3148224 B2 Previous Publ. JP 03207728

PRAI **DE 1989-3930515 19890913**

REP DE 1285170; EP 18511; FR 2064778; FR 2297083; FR 2398711

IC ICM **B01J019-30**; **B01J031-08**; **B01J039-20**; C08F005-20; C08J005-20

ICS B01D003-14; B01D003-26; B01D011-00; B01D015-04; B01D053-18; B01D063-02; **B01J020-26**; **B01J031-10**; **B01J039-18**; **B01J041-14**; **B01J047-00**; C07C002-28; C07C011-02; C07C029-04; C07C029-80; C07C041-01; C07C043-04; C08F005-22; C08F008-36; C08F212-08; C08L025-18

ICA C07B061-00

AB EP 417407 A UPAB: 19930928

Shaped bodies of **macroporous** strongly-acid or -basic ion-exchange **resins** are claimed which are in the form of packings such as Raschig rings, Berl saddles, Torus saddles,, packings with flanges or crosspieces, Pall rings, other hollow bodies, hollow spheres etc. with a hollow vol. of 5-95 vol.% (excluding the **resin pores**), BET surface area 0.01-1,000 (pref. 20-60)m2/g. and exchange capacity 0.05-10, (pref. 3-6) meq./g.

USE/ADVANTAGE - Used as catalytically-active material for chemical reactions such as etherification, hydration, dimerisation, oligomerisation, esterification, hydrogenation and/or alkylation the packings simultaneously acting in sepn. operations such as adsorption, absorption, extraction, stripping, distillation, rectification, fractionation and membrane processes. @(18pp Dwg.No.0/5)

FS CPI

FA AB; DCN

MC CPI: E10-G02; E10-H01; E10-J02C; E10-J02D; E11-B; E11-D; E11-K; H02-A; H02-D01; H02-D04; H04-E; H04-F02E; J01-A02; J01-D04; **J04-E**; N02-E; N02-F; N06

ABEQ US 5244929 A UPAB: 19931123
Moulded packaging bodies comprises a **macroporous** strongly acid or basic ion exchange **resin** having a acid fraction of 5-95 vol.% of the macro shape without **pores**, a BET surface area of 0.1-1000 sq m./g. and an ion exchange capacity of 0.05-10 meq/g. The **resin** is prepd. by copolymerising styrene and divinylbenzene monomers in wt. ratio of 200:1-1:8 in the presence of polymerisation initiator pref. followed by acid treatment to introduce and centres in the **resin** .

The moulded bodies are pref. doped with at least one gp. VIIA or gp. VIIIA metal and ore in the form of Raschig rings having inner dia. of 0.5-100 mm. a wall thickness of 0.1-20mm and a length 0.1-20 times the inner dia.

USE - As packings in chemical engineering to increase reaction rates between two gaseous materials or liq. in countercurrent or concurrent flow.

Dwg.0/5

ABEQ EP 417407 B UPAB: 19940627
Process for the production of moulded articles comprising **macroporous** strongly acidic or basic ion exchange **resin** in the form of filters such as Raschig rings. Berl saddles, Torus saddles, filler rings with web or cross web. Pall rings, other hollow articles, hollow spheres and similar with a voids proportion of 5 to 95 vol.% of the macro-shape without **pores**, a BET surface of 0.1 to 1000 m2/g, preferably 20 to 60 m2/g and an exchange capacity of 0.05 to 10, preferably 3 to 6 meq/g, by polymerization-initiated copolymerization, particularly of styrene and divinyl benzene in the weight ratio from 200:1 to 1:8 preferably 20:1 to 5:1 with the addition of 2 to 80 wt.%, preferably 10 to 40 wt.% **pore** formers to the total mixture, whereby this mixture is subjected to a shaping measure such as casting, injection moulding or extrusion in a manner known per se for the production of moulded copolymerisates, and the **pore** former is removed e.g. by rinsing after the moulded article has been cured.

Dwg.0/0

L34 ANSWER 21 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1990-115847 [15] WPIX
DNC C1990-050879
TI Holding catalyst in multiple flat containers **permeable** to reactants - only and sepg. by reinforcing spacers forming flowing media guide channel.
DC **J04**
IN SHELDEN, R; STRINGARO, J; STRINGARO, J P
PA (SULZ) GEBR SULZER AG; (SULZ) SULZER BROS LTD
CYC 13

| | | | | | | |
|---|---|---|---|---|---|---|
| PI | WO 9002603 | A | 19900322 (199015)* | 33p | | <-- |
| | RW: AT BE CH DE FR GB IT LU NL SE | | | | | |
| | W: JP US | | | | | |
| | EP 396650 | A | 19901114 (199046) | | | <-- |
| | R: AT BE CH DE FR GB IT LI NL SE | | | | | |
| | JP 03500983 | W | 19910307 (199116) | | | <-- |
| | EP 396650 | B1 | 19921014 (199242) DE | 16p | B01J012-00 | <-- |
| | R: AT BE CH DE FR GB IT LI NL SE | | | | | |
| | DE 58902465 | G | 19921119 (199248) | | B01J012-00 | <-- |
| | EP 396650 | B2 | 19950412 (199519) DE | 15p | B01J012-00 | <-- |
| | R: AT BE CH DE FR GB IT LI NL SE' | | | | | |
| | US 5417938 | A | 19950523 (199526) | 13p | B01J008-04 | <-- |
| | US 5473082 | A | 19951205 (199603) | 12p | C07D249-16 | <-- |
| | US 5550298 | A | 19960827 (199640) | 12p | C07C041-06 | <-- |
| | JP 2984290 | B2 | 19991129 (200002) | 11p | B01J019-32 | <-- |

ADT EP 396650 A **EP 1989-909146 19890822**; JP 03500983 W **JP 1989-508559 19890822**; EP 396650 B1 **EP 1989-909146 19890822**, **WO 1989-CH150 19890822**; DE 58902465 G **DE 1989-502465**

**19890822, EP 1989-909146 19890822, WO 1989-CH150 19890822**; EP 396650 B2 **EP 1989-909146 19890822, WO 1989-CH150 19890822**; US 5417938 A **WO 1989-CH150 19890822, US 1990-499367 19900531**; US 5473082 A **Div ex WO 1989-CH150 19890822, Div ex US 1990-499367 19900531, US 1993-92504 19930715**; US 5550298 A **Div ex US 1990-499367 19900531, Div ex US 1993-92504 19930715, US 1995-412898 19950329**; JP 2984290 B2 **JP 1989-508559 19890822, WO 1989-CH150 19890822**

FDT EP 396650 B1 Based on WO 9002603; DE 58902465 G Based on EP 396650, Based on WO 9002603; EP 396650 B2 Based on WO 9002603; US 5417938 A Based on WO 9002603; US 5550298 A Div ex US 5417938, Div ex US 5473082; JP 2984290 B2 Previous Publ. JP 03500983, Based on WO 9002603

PRAI **CH 1988-3295 19880902; CH 1989-577 19890217**

REP 1.Jnl.Ref; BE 815237; DE 2037194; JP 52075657; US 3827384; US 3926851; US 4443559; EP 8860; US 3727384; 2.Jnl.Ref; CH 398503; EP 210614; GB 1186647; GB 1471442; GB 1569828; GB 1604361; US 4455339; US 4497751; US 4497752; US 4497753; US 4731229; US 4744928

IC ICM **B01J008-04; B01J012-00; B01J019-32;** C07D249-16

ICS B01D003-00; **B01J035-04**; C07B061-00; C07C043-04; C07C051-21; C07C057-14

ICA C07C041-06; C07C051-215; C07C057-145

AB WO 9002603 A UPAB: 19930928

Reaction in flowing media is catalysed by liq. solid or gaseous catalyst held in the interior of multiple flat containers **assembled** in a casing and sepd. by elements, esp. corrugated strip, which reinforce the flat container walls and also form flow channels for the flowing media. The container walls are **permeable** to the reactants but not to the catalyst, and may be formed of knitted or woven wire fabric or fleece made of metal, plastic and/or glass fibres, or of **porous** sintered or semi-**permeable** membrane material.

Combined spacers and flow guide elements may also be bar elements or plates perpendicular to the container main surface. Corrugated strip elements may intersect at an angle. Casing shape is adaptable to reactor shape, e.g., a square, circular or polygonal cross-section.

ADVANTAGE - Temp. distribution and reactant concn. are uniform throughout the reactor, avoiding hot spots.

0/5

FS CPI

FA AB

MC CPI: **J04-E01**

ABEQ DE 58902465 G UPAB: 19930928

Reaction in flowing media is catalysed by liq. solid or gaseous catalyst held in the interior of multiple flat containers **assembled** in a casing and sepd. by elements, esp. corrugated strip, which reinforce the flat container walls and also form flow channels for the flowing media. The container walls are **permeable** to the reactants but not to the catalyst, and may be formed of knitted or woven wire fabric or fleece made of metal, plastic and/or glass fibres, or of **porous** sintered or semi-**permeable** membrane material.

Combined spacers and flow guide elements may also be bar elements or plates perpendicular to the container main surface. Corrugated strip elements may intersect at an angle. Casing shape is adaptable to reactor shape, e.g., a square, circular or polygonal cross-section.

ADVANTAGE - Temp. distribution and reactant concn. are uniform throughout the reactor, avoiding hot spots.

0/5

ABEQ EP 396650 B UPAB: 19950524

A device (41) for carrying out catalytic reactions, comprising a plurality of layers (42), flow channels (45) being present between the adjoining layers, characterised in that the layers (42) exhibit a structure with double walls (43), leaving spaces between the double walls into which

catalyst materials comprising solid particles are introduced, the walls (43) of the layers (42) being **permeable** to the reactants and **impermeable** to the catalyst materials, the structure of the layers forming flow channels (45) which enclose an angle relative to the longitudinal axis of the device (41) and adjoining layers (42) being placed together in such a way that their flow channels (45) cross.
0/5
Dwg.1/5

ABEQ US 5417938 A UPAB: 19950705
Device (41) for catalysed reactions comprises layers (42) disposed in **parallel** relation with flow channels (45) between the layers for a flow of reactants. Each layer (42) has a pair of mutually **parallel** walls to the layer (42) defining at least one interspace between them. A catalyst material (46) is in the interspace of the layers (42). At least one of the walls of the layer is made of material **permeable** to the reactants and **impermeable** to the catalyst material to permit a catalysed reaction of the reactants.
USE/ADVANTAGE - Device for carrying out catalysed reactions e.g. for use with catalytic solid bed reactor for oxidn. or hydrogenation reactions. Use in catalytic and catalytic rectifying reactors. Useful for catalytic distillation processes. It allows advantageous use of catalyst materials and a long useful life when carrying out catalysed reactions and allows a wide range of catalysed materials to be used. It has uniform temp. distribution, concn. equalisation over the cross section, limited residence time, very little back mixing and improved operating safety.
Dwg.1/5

ABEQ US 5473082 A UPAB: 19960122
A process comprises
directing a mixture of air and n-butane over a plurality of pairs of vertically extending vapor **permeable** walls disposed in spaced pairs to form flow channels between said pairs and having a catalyst disposed between each pair of walls within a catalyst reaction column;
directing a flowable heat-removing medium in heat exchange relation with the mixture of air and n-butane to effect a catalytic reaction of the mixture into gaseous maleic anhydride; and
removing the gaseous maleic anhydride as a product.
Dwg.0/5

ABEQ US 5550298 A UPAB: 19961007
A process for obtaining methyl tert. butyl ether comprises: (a) feeding methanol over a solid catalyst section in a rectifying column having a number of vertically extending **parallel** layers defining flow channels between them, each layer having a pair of walls defining at least one interspace for a catalyst material, at least one of the walls being **impermeable** to the catalyst material and **permeable** to the methanol; (b) feeding a reactant comprising a mixt. of saturated and unsaturated 4 carbon-chain hydrocarbons into the solid catalyst section for catalytic reaction with the methanol to produce methyl tert. butyl ether; and (c) removing the methyl tert. butyl ether from the rectifying column.
Dwg.1/5

L34 ANSWER 22 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1990-101598 [14] WPIX
DNN N1990-078514 DNC C1990-044602
TI Appts. for altering valency esp. to form ferric or uranous ions - comprises soln. chamber, and gas **permeable** membrane including catalytic reaction layer, in contact with oxidising or reducing gas.
DC A88 E37 J03 **J04** X25
IN FURUYA, N
PA (TANI) TANAKA KIKINZOKU KOGYO KK; (FURU-I) FURUYA N; (KIKI-I) KIKINZOKU T
CYC 3
PI EP 362157 A 19900404 (199014)* EN 10p <--
JP 02153086 A 19900612 (199029) <--

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | JP 02225686 | A | 19900907 (199042) | | | | <-- |
| | JP 02298337 | A | 19901210 (199104) | | | | <-- |
| | US 5071516 | A | 19911210 (199201) | | | | <-- |
| | US 5181993 | A | 19930126 (199307) | | 7p | C25B001-00 | <-- |
| | EP 362157 | B1 | 19930908 (199336) | EN | 11p | B01J010-00 | <-- |
| | DE 68908992 | E | 19931014 (199342) | | | B01J010-00 | <-- |
| | JP 2582873 | B2 | 19970219 (199712) | | 3p | C25B001-00 | <-- |

ADT EP 362157 A **EP 1989-830407 19890921**; JP 02153086 A **JP 1988-238595 19880922**; JP 02225686 A **JP 1988-243675 19880928** ; US 5071516 A **US 1989-410582 19890921**; US 5181993 A **CIP of US 1989-410582 19890921, US 1991-757477 19910910**; EP 362157 B1 **EP 1989-830407 19890921**; DE 68908992 E **DE 1989-608992 19890921, EP 1989-830407 19890921**; JP 2582873 B2 **JP 1988-238595 19880922**

FDT US 5181993 A CIP of US 5071516; DE 68908992 E Based on EP 362157; JP 2582873 B2 Previous Publ. JP 02153086

PRAI **JP 1988-238595 19880922**; **JP 1988-243675 19880928** ; **JP 1989-120133 19890513**

REP 2.Jnl.Ref; A3...9039; DE 2151572; EP 96759; JP 58163428; No-SR.Pub; US 3361651

IC **B01J008-04**; **B01J010-00**; **B01J019-24**; C01G019-08; C01G043-00; C01G049-00; C25B001-02

AB EP 362157 A UPAB: 19930928

Appts. e comprises: a gas **permeable** membrane of electrode (2) supporting a catalytic reaction layer (3) and a hydrophobic gas-**permeable** layer (4); a soln. chamber (5) contg. the ions with an inlet and outlet and located on the reaction layer side; and an oxidising or reducing gas chamber (6) located on the gas-**permeable** layer side.

Gas **permeable** membrane (2) is formed by joining the reaction layer (3) formed of (hydrophilic C particle-supported) catalyst particles, hydrophilic C particles and a fluoro-**resin**, with the gas **permeable** layer (4) comprising hydrophobic C particles and a fluoro-**resin**, e.g. PTFE. The reaction may be a non-electrolytic oxidn. or reduction reaction or may be electrolytic, in which case a corrosion-resistance electrode is provided in the soln. chamber.

ADVANTAGE - Esp. used in oxidising ferrous ions to ferric or reducing uranyl ions to uranous.

Appts. is simple, efficient and economical.

1/6

FS CPI EPI

FA AB; GI; DCN

MC CPI: A04-E10; A12-E09; A12-W11A; E11-D; E11-E; E35-R; E35-U04; **J04-X**; N02-F02

EPI: X25-R01C

ABEQ US 5071516 A UPAB: 19930928

Converting an ionic valence number comprises: (a) supplying a soln. contg. an ion to the reaction layer side of a gas **permeable** membrane; (b) supplying an oxidising or reducing gas to gas **permeable** side; (c) and converting valence number of ion in the soln. contg. ion.

**Porosity** of gas **permeable** is pref. more than 60%.

USE/ADVANTAGE - Provides an easy method of conversion.

ABEQ US 5181993 A UPAB: 19930928

Ferrous ions are converted to ferric ions by (a) adding a soln. contg. ferrous ions to the reaction layer side of a gas **permeable** membrane or electrode formed by joining a catalyst-supporting reaction layer with a gas-**permeable** layer; and (b) adding an oxidising gas to the gas **permeable** side, and converting ferrous ions in soln.. Pressure of the soln. contg. ferrous ions is more than that of the oxidising gas.

ADVANTAGE - Uranyl ion can similarly be converted into corresp. uranous ions.

2/6

ABEQ EP 362157 B UPAB: 19931122
An apparatus for converting an ionic valence number which comprises a first chamber (5) containing a solution containing an ion; a second chamber (6) containing an oxidising or reducing gas; and a gas **permeable** membrane electrode (2) separating said first chamber from said second chamber and composed of a reaction layer (3) and a **porous** hydrophobic gas **permeable** layer (4), joined together; said reaction layer is in contact with said solution and comprises a catalyst, hydrophilic carbon particles which support the catalyst, hydrophobic carbon particles and a fluorine-containing **resin**; said **porous** hydrophobic gas **permeable** layer is in contact with said gas and comprises hydrophobic carbon particles and a fluorine-containing **resin** and has hydrophobic **pores** of not more than 0.1um.
Dwg.1/6

L34 ANSWER 23 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1989-152906 [21] WPIX
DNC C1989-067593
TI Re-sorbing liq. leaks - by spreading **porous** granules on liq. then covering with hardenable **resin** to form rigid mass.
DC A97 **J04** K07 L02
IN BISSERY, P; GOUVENOT, D
PA (SOLE) SOLETANCHE; (SOLF) SOLID FUELS CORP
CYC 13
PI EP 317436 A 19890524 (198921)* FR 4p <--
R: AT BE CH DE ES FR GB IT LI NL SE
FR 2623202 A 19890519 (198927) <--
NO 8805145 A 19890612 (198929) <--
ES 2008666 A 19890801 (198949) <--
JP 02002871 A 19900108 (199007) <--
EP 317436 B 19910529 (199122) <--
R: AT BE CH DE ES FR GB IT LI NL SE
DE 3863059 G 19910704 (199128) <--
ES 2008666 B 19911201 (199202) <--
ADT EP 317436 A **EP 1988-402893 19881117**; FR 2623202 A **FR 1987-15936 19871118**; JP 02002871 A **JP 1988-291041 19881117**
PRAI **FR 1987-15936 19871118**
REP EP 242683; WO 8404706; WO 8404706
IC **B01J019-06**; **B01J020-12**; C09K003-32; G21F005-12; G21F009-12
AB EP 317436 A UPAB: 19930923
A process for resorbing liquid leaks comprises spreading on the liquid surface granules of a **porous** mineral cpd of 1-10 mm dia, allowing the liquid to be absorbed and throwing on the granules a chemically hardenable **resin** compsn to form a (semi) rigid mass.
The granules comprise clay of the montmorillonite or kaolinite type, pref montmorillonite associated with zeolite powder used in amt of 1-100 wt% w.r.t. clay. Alternatively the granules comprise zeolites. The **resin** is a moisture curable one part polyurethane (PU) **resin** or a 2-part PU, one part being a polyol and the other part an isocyanate type hardener.
USE/ADVANTAGE - Partic for toxic or radioactive liquid leaks in chemical or nuclear industries, regardless of the liquid being aqueous or not. Process is simple and efficient and does not have the drawbacks of known methods (e.g. absorption with sand or sawdust which may cause risk of contamination by dispersion caused by bad weather.).
FS CPI
FA AB
MC CPI: A05-G01E1; A12-W11C; A12-W11D; J01-D01; K07-A03; K07-B; L02-G
ABEQ EP 317436 B UPAB: 19930923
Process for absorbing leakages of liquids, characterised in that it consists in spreading on the surface of the liquid granules of at least

one **porous** inorganic cpd. which has a dia. of 1 to 10 mm, allowing the liquid to be absorbed and spraying onto the granules a compsn. based on a **resin** capable of being cured by chemical action with a view to forming a rigid to semirigid mass.

L34 ANSWER 24 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1989-078757 [11] WPIX
DNN N1989-060125
TI Thermal shock probe utilisation for chemical heat pump - processing of thermocouple response to pulse or step applied to reaction between solid and gas.
DC Q78 **S03**
IN COMTAT, M; OMS, J; PROSDOCIMI, J; OMS, J L
PA (ERAP) SOC NAT ELF AQUITAINE
CYC 15
PI EP 307299 A 19890315 (198911)* FR 7p <--
R: AT BE CH DE GB IT LI LU NL SE
FR 2620245 A 19890310 (198917) <--
JP 01107845 A 19890425 (198922) <--
ES 2010441 A 19891101 (199004) <--
US 4994394 A 19910219 (199110) <--
CA 1304956 C 19920714 (199234) FR G01K007-02 <--
ADT EP 307299 A **EP 1988-402227 19880905**; JP 01107845 A **JP 1988-223350 19880906**; ES 2010441 A **ES 1989-865 19890309**; US 4994394 A **US 1988-239664 19880902**; CA 1304956 C **CA 1988-576555 19880906**
PRAI **FR 1987-12390 19870907**
REP 1.Jnl.Ref; A3...9109; DE 2808464; DE 3122642; EP 227552; FR 2546278; FR 8519137; No-SR.Pub
IC ICM G01K007-02
ICS **B01J008-04**; **B01J015-00**; **B01J019-00**; F28D020-00; F28F027-00; G01N025-18; G01N035-08; G05D023-22
AB EP 307299 A UPAB: 19930923
The probe (6) has a magnesia-packed heating filament within a stainless steel tube to which a thermocouple is bonded with wiring (80,81) to a signal-processing circuit (8). It is energised from a current generator (7) to produce the necessary heat flux into a reaction chamber.

Two chambers (1,2) are **linked** by a tube (3) and equipped with heat exchangers (4,5) in circuits contg. electrically-operated valves (11,10). A thermal pulse or step is produced by the generator (7), and the response curve of the thermocouple is integrated, or the temp. attained after a given interval detected.

USE/ADVANTAGE - For monitoring chemical reaction between **porous** mixt. and gas. Device is well suited to use in solid-gas reactor where heterogeneity can be measured with minimal response time. 2/8
FS EPI GMPI
FA AB; GI
MC EPI: **S03-E01**
ABEQ US 4994394 A UPAB: 19930923
A thermal shock probe is used to control a heat pump. The method of using a thermal shock probe formed of a thermocouple associated with a heating element, is characterised in that it is used for monitoring, in a solid-gas reactor (1,2). The chemical reaction between a **porous** mixture and a gas by applying a heat flux variation and processing the response of the thermcouple.

The application of the heat is formed by a thermal pulse obtained by a current generator (7) feeding the heating resistance (61) so as to obtain short response times and the processing is provided by integrating the response curve of the thermocouple.

ADVANTAGE - Simple measurement of thermal characteristics of materials.

L34 ANSWER 25 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1989-009828 [02] WPIX
CR 1991-165907 [23]
DNC C1989-004559
TI Chemical reactor e.g. for steam reforming - has radiantly heated catalyst carrier with layers of differing **porosity**.
DC E36 H04 **J04**
IN AOKI, M; ECHIGO, R; IDE, Y; IKEDA, M; IWASA, K; ONOMURA, M; SHIMIZU, R; YOSHIZAWA, Y
PA (CHIY) CHIYODA CORP; (ISHI) ISHIKAWAJIMA HARIMA JUKOGYO KK; (KOBM) KOBE SEIKO SHO KK; (MITO) MITSUBISHI JUKOGYO KK; (MITP) MITSUBISHI PETROCHEM ENG; (NINE-N) NIPPON NENRYO GIJUTSU KAIHATSU; (RYOK-N) RYOKA TECHNO ENG & CONS CO; (TOKD) TOKYO INST TECHNOLOGY; (TOKE) TOSHIBA KK
CYC 5
PI EP 298772 A 19890111 (198902)* EN 9p <--
R: DE FR GB
JP 01015132 A 19890119 (198909) <--
JP 01016892 A 19890120 (198909) <--
EP 298772 B 19911227 (199201) <--
R: DE FR GB
DE 3867156 G 19920206 (199207) <--
JP 05025537 B 19930413 (199317) 4p B01J019-24 <--
ADT EP 298772 A **EP 1988-306274 19880708**; JP 01015132 A **JP 1987-172614 19870710**; JP 01016892 A **JP 1987-172615 19870710** ; JP 05025537 B **JP 1987-172615 19870710**
FDT JP 05025537 B Based on JP 01015132
PRAI **JP 1987-172614 19870710**; **JP 1987-172615 19870710**
REP 1.Jnl.Ref; A3...8917; FR 1327210; JP 58223603; No-SR.Pub; WO 8602016
IC **B01J008-06**; **B01J019-00**; C01B003-38
ICM **B01J019-24**
ICS **B01J008-06**; **B01J012-00**; C01B003-38
AB EP 298772 A UPAB: 19940608
Reactor has two chambers sepd. by a **partition**, a **porous** heat radiation body in one chamber to be heated by throughflowing combustion gas, and a catalyst-carrying member in the other chamber to be heated by radiant heat from the body, to heat and cause reaction in a raw gas mixture passed through the member.

The member is divided into layers in the gas flow direction, with the equiv. **pore** diameter or **porosity** of the layer adjacent to the body being different to that of the layer remote from the body. Member **porosity** pref. increases in the raw gas flow direction, and the downstream part of the member contains catalyst while the upstream part has no catalyst.

USE/ADVANTAGE - Used e.g. for converting a CH4 + H2O mixt. to H2 + CO. Reactor reduces the amt. of expensive catalyst required to minimise capital, operational and maintenance costs.

Dwg.0/7
FS CPI
FA AB; DCN
MC CPI: E31-A01; H04-E04; **J04-E02**; N06
ABEQ EP 298772 B UPAB: 19930923
A chemical reactor having two chambers separated by a **partition** wall, a **porous** heat radiating body being disposed in one of the chambers and a **porous** heat-receiving body in which a catalyst is dispersed being disposed in the other chamber, whereby, in use, the heat radiating body is heated by high temperature combustion gas flowing through it and transmits heat to the heat-receiving body which heats a raw gas mixture (8) flowing through it and causes it to react, characterised in that the **porosity** of the heat-receiving body increases in the direction of flow of the raw gas mixture through it.
ABEQ JP 93025537 B UPAB: 19931025
Reactor appts. has **porous** heat-radiating body and catalyst-carried heat-receiving body in respective chambers

**partitioned** by a wall. Heat-receiving body is divided into layers in gas-flowing direction. Equiv. **pore** dia. or **porosity** is varied between divided layers on heat-radiating body side and side remote from it.

ADVANTAGE - Temp. distribution in gas-flowing direction can arbitrarily be adjusted to produce decomposed gas in desired state. (J01015132-A)

L34 ANSWER 26 OF 26 WPIX (C) 2003 THOMSON DERWENT
AN 1987-130819 [19] WPIX
CR 1987-151929 [22]
DNC C1987-054353
TI Oxidising gaseous charge between multi-channelled inlet and outlet - with channels too narrow to support reaction flame.
DC E17 E19 E37 **J04**
IN ALAGY, J; BUSSON, C
PA (INSF) INST FRANCAIS DU PETROLE
CYC 13
PI EP 221813 A 19870513 (198719)* FR 12p <--
R: DE FR GB IT NL
NO 8604114 A 19870518 (198726) <--
FR 2592319 A 19870703 (198733) <--
BR 8605067 A 19870721 (198734) <--
JP 62169888 A 19870727 (198735) <--
DK 8604938 A 19870418 (198747) <--
EP 221813 B 19890301 (198909) FR <--
R: DE FR GB IT NL
DE 3662176 G 19890406 (198915) <--
US 4971770 A 19901120 (199049) <--
CA 1290141 C 19911008 (199148) <--
DK 167426 B 19931101 (199349) B01J012-00 <--
JP 07000482 B2 19950111 (199506) C01B003-38 <--
ADT EP 221813 A **EP 1986-402317 19861016**; FR 2592319 A **FR 1985-19427 19851230**; JP 62169888 A **JP 1986-245666 19861017**; US 4971770 A **US 1988-264393 19881031**; DK 167426 B **DK 1986-4938 19861015**; JP 07000482 B2 **JP 1986-245666 19861017**
FDT DK 167426 B Previous Publ. DK 8604938; JP 07000482 B2 Based on JP 62169888
PRAI **FR 1985-15550 19851017**; **FR 1985-19427 19851230**
REP DE 1804093; FR 1395256; US 2772149; US 4012201; US 4381187
IC **B01J004-00**; **B01J008-04**; **B01J012-00**; **B01J019-24**; C01B003-36; C07B033-00; C07C029-15; C10G027-00; C10J003-00
ICM **B01J012-00**; C01B003-38
ICS **B01J004-00**; **B01J008-04**; **B01J019-24**; C01B003-36; C07B033-00; C07C029-15; C10G027-00; C10J003-00
ICA C01B003-34
AB EP 221813 A UPAB: 19950223
A gaseous charge is oxidised by a gas mixture by contacting the charge and mixture between two zones with channels not more than 10mm wide and sufficiently narrow to extinguish the reaction flame, traversed by the charge and by the reaction prods. respectively, and supplying the contact zone with the oxidising mixture through **parallel porous** conduits not further than the distance required to extinguish the flame from the other two zones. A reactor for carrying out the process is also claimed.

USE/ADVANTAGE - For synthesising aliphatic alcohols from carbon oxides and hydrogen (claimed), or oxidising steam reforming products, benzlie or ammonia. Oxygen distribution is homogeneous and explosion is prevented.

Dwg.0/7
Dwg.0/7
FS CPI
FA AB; DCN

MC CPI: E10-E04E; **J04-X**
ABEQ EP 221813 B UPAB: 19930922
A method for oxidising a charge that can be oxidised in gaseous phase by a mixture of gases containing at least one oxidising gas in which the reaction products are collected, characterised in that said mixture of gases and said oxidisable charge are brought into contact in a contact and mixing zone located between at least one first zone passed through by said charge and at least one second zone passed through by the oxidation reaction products thus obtained, said first and second zones defining a multiplicity of multi-directional spaces exhibiting passages having one dimension in at least one direction at most equal to 10 millimetres, this dimension corresponding to the arresting distance of the flame which could result from oxidation of said charge, said contact zone comprising a zone for supplying oxidising mixture which comprises a plurality of substantially **parallel** ducts with **porous** walls and is located a distance from the first zone and the second zone at most equal to the arresting distance.
ABEQ US 4971770 A UPAB: 19930922
Flammable reaction products are obtd by A) passing a gaseous oxidisable feed through a zone packed with a material allowing passage of the feed but not larger than a flame stopping distance, less than 10 mm, in any direction, B) passing the feed into a contact and mixing zone where it is reacted with an oxidising gas and C) passing the reacted mixt through a zone packed in thee same way as A). Zone B) pref contains as feed for oxidising gas a number of virtually **parallel** pipes with **porous** walls situated away from the other 2 zones by a distance not exceeding the flame stopping distance.
USE/ADVANTAGE - For the prodn of MeOH and high grade homologous alcohol from H2 and COx; risk of explosions due to backfiring is eliminated.

=> fil biosis
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CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 8 January 2003 (20030108/ED)

=> d all

L36 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:458848 BIOSIS
DN PREV199598473148
TI Combinatorial Synthesis: The Design of Compound **Libraries** and their Application to Drug Discovery.
AU Terrett, Nicholas K. (1); Gardner, Mark; Gordon, David W.; **Kobylecki, Ryszard** J.; Steele, John
CS (1) Discovery Chem. Dep., Pfizer Central Research, Sandwich, Kent CT13 9NJ UK
SO Tetrahedron, (1995) Vol. 51, No. 30, pp. 8135-8173.
ISSN: 0040-4020.
DT General Review
LA English
CC Biochemical Methods - General *10050
Biochemical Studies - General *10060
Biophysics - Molecular Properties and Macromolecules *10506
Pharmacology - General *22002

IT Major Concepts
Biochemistry and Molecular Biophysics; Methods and Techniques; Pharmacology
IT Miscellaneous Descriptors
PHARMACOLOGY; SOLID PHASE; SOLUTION; STRUCTURAL DETERMINATION; SYNTHETIC METHODOLOGY; TARGET IDENTIFICATION

=> fil hcaplus
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FILE COVERS 1907 - 13 Jan 2003 VOL 138 ISS 3
FILE LAST UPDATED: 12 Jan 2003 (20030112/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot

L41 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:763328 HCAPLUS
DN 135:320068
TI Resolution of different compound forms by computerized process control of **multichamber** separations
IN **Kobylecki, Ryszard**; Cowell, Daniel; Stylianopoulos, Vassilis
PA Millennium Pharmaceuticals, Inc., USA
SO PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N035-02
ICS B01J019-00
CC 48-1 (Unit Operations and Processes)
Section cross-reference(s): 63
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2001077690 | A1 | 20011018 | WO 2001-GB1593 | 20010409 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1181560 A1 20020227 EP 2001-919638 20010409
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
US 2002183938 A1 20021205 US 2002-18034 20020723
PRAI GB 2000-8563 A 20000407
WO 2001-GB1593 W 20010409

AB Different forms of a material (i.e., polymorphs, isomers, hydrates, solvates, crystal habits, salts, etc.) are investigated and resolved in an app. comprising an assembly of reactor chambers arranged within a reactor body which incorporates heating and/or cooling blocks, a stirrer block, and a vessel support block that supports resp. sample vessels below each reactor chamber for receiving material from the reactors. The app. includes a computerized control unit which controls a robotic device for delivering materials to the reactors, and a pressure unit that controls passage of material from the reactors to the sample vessels. A case example was given for resoln. and sepn. of polymorphs of cimetidine.

ST computer process control compd resoln; solvate resoln sepn process control; polymorphism resoln sepn process control; hydrate resoln sepn process control; crystal habit resoln sepn process control

IT Process control
(computerized; resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT Solvation
(in resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT Resolution (separation)
Separation
(resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT Crystal morphology
Isomers
Polymorphism (crystal)
Solvates
(resoln. of; resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT Hydrates
Salts, processes
RL: PUR (Purification or recovery); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(resoln. of; resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT Ligroine
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(solvent; in resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT 51481-61-9P, Cimetidine
RL: PUR (Purification or recovery); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(polymorphism resoln. of; resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

IT 60-29-7, Diethyl ether, processes 64-17-5, Ethanol, processes 67-56-1, Methanol, processes 67-63-0, Isopropanol, processes 67-64-1, Acetone, processes 68-12-2, Dimethyl formamide, processes 75-05-8, Acetonitrile, processes 75-09-2, Dichloromethane, processes 78-83-1, 2-Methyl-1-propanol, processes 78-93-3, Methyl ethyl ketone, processes 108-10-1, Methyl isobutyl ketone 108-20-3, Isopropyl ether 108-21-4, Isopropyl acetate 108-88-3, Toluene, processes 109-99-9, Tetrahydrofuran, processes 110-54-3, Hexane, processes 123-91-1, Dioxane, processes 141-78-6, Ethyl acetate, processes 540-84-1,

Isooctane 872-50-4, N-Methylpyrrolidone, processes 1634-04-4, Methyl tert-butyl ether 7732-18-5, Water, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(solvent; in resoln. of different compd. forms by computerized process control of **multichamber** sepns.)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Chase, C; US 3814582 A 1974
(2) Cosgrove, R; US 4578244 A 1986
(3) Grubbs, R; US 5798035 A 1998
(4) McFarland, E; TRENDS IN BIOTECHNOLOGY 1999, V17(3), P107 HCAPLUS
(5) Pokorny, V; US 6045755 A 2000 HCAPLUS
(6) Rolfo-Fontana, G; US 3932131 A 1976 HCAPLUS
(7) Schering Corp; EP 0553539 A 1993 HCAPLUS
(8) Shekunov, B; JOURNAL OF CRYSTAL GROWTH 2000, V211(1-4), P122 HCAPLUS

L41 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:380466 HCAPLUS
DN 135:7476
TI Examining chemical reactions
IN **Kobylecki, Ryszard**; Bruce, Michael; Gruter, Gert-Jan; Partington, Roy; De Keijzer, Adrianus Hendricus Joseph Franciscus; Ramjoie, Yves; Kranenburg, Mirko
PA Millennium Pharmaceuticals Limited, UK
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM B01J019-00
ICS B01J003-04; B01J019-18; C08F010-00
CC 48-8 (Unit Operations and Processes)
Section cross-reference(s): 35, 67

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2001036087 | A1 | 20010525 | WO 2000-GB4370 | 20001117 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | EP 1230011 | A1 | 20020814 | EP 2000-977657 | 20001117 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL | | | | |
| | GB 2372506 | A1 | 20020828 | GB 2000-28110 | 20001117 |
| PRAI | GB 1999-27148 | A | 19991117 | | |
| | WO 2000-GB4370 | W | 20001117 | | |

AB A system and method for examg. chem. reactions, esp. catalyzed polymn. reactions, uses an array of app. within a nitrogen filled glove box. A multi-pipetting robot is arranged to deliver measured amts. of materials (e.g. catalyst components) to mixing vessels which in turn are arranged to deliver the components to reactors into which other components (e.g. monomer gases) are fed. A range of variables for reactions undertaken in app. are controlled by a computer which also stores data relating to reactions effected in a database. A **library** of products can be made using the system under carefully controlled and reproducible conditions and parameters affecting the properties of products produced can be investigated.

ST catalyzed polymn reaction examg system; chem reaction examg system
IT Glove boxes
(nitrogen-filled; system and method for examg.chem. reactions)
IT Information systems
(storage; system and method for examg.chem. reactions)
IT Catalysts
Computer application
Polymerization
Process control
Reaction
Robotics
(system and method for examg.chem. reactions)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Boussie, T; TETRAHEDRON 1999, V55(39), P11699 HCAPLUS
(2) Buss, R; US 3998995 A 1976 HCAPLUS
(3) Drahoslav; US 3325453 A 1967
(4) Johnson Matthey Plc; GB 2327754 A 1999 HCAPLUS
(5) Newsam, J; Proceedings of the NATO Advanced Study Institute on Combinatorial Catalysis and High Throughput Catalyst Design and Testing 2000
(6) Rohm & Haas; EP 0916397 A 1999 HCAPLUS
(7) Sumitomo Chemical Co; EP 0882500 A 1998 HCAPLUS

L41 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:211395 HCAPLUS
DN 135:19217
TI Revolutionizing resin handling for **combinatorial** synthesis
AU Atrash, Butrus; Bradley, Mark; **Kobylecki, Ryzard**; Cowell, Dan; Reader, John
CS Department of Chemistry, University of Southampton, Southampton, SO17 1BJ, UK
SO Angewandte Chemie, International Edition (2001), 40(5), 938-941
CODEN: ACIEF5; ISSN: 1433-7851
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
CC 21-2 (General Organic Chemistry)
OS CASREACT 135:19217
AB A new resin support is generated by co-sintering the synthesis resin beads with an inert polymer (polyethylene) in poly(tetrafluoroethylene) molds to form plugs contg. 50% of the synthesis resin. A wide range of reactions was carried out to demonstrate its applicability and its comparability to the free resin.
ST polymer support **combinatorial** synthesis
IT **Combinatorial library**
Polymer-supported reagents
Solid phase synthesis
(molded polymer supports for **combinatorial** synthesis)
IT 98-80-6, Phenylboronic acid 100-39-0, Benzyl bromide 104-81-4, 4-Methylbenzyl bromide 147-58-0 400-94-2, 4-Fluoro-3-nitrobenzoyl chloride 537-55-3 619-58-9, 4-Iodobenzoic acid 619-66-9 939-26-4, 2-Bromomethylnaphthalene 1798-06-7, 4-Iodophenylacetic acid 1878-94-0, 4-Iodophenoxyacetic acid 2417-72-3, Methyl 4-bromomethylbenzoate 3006-96-0 5720-05-8, 4-Methylphenylboronic acid 7625-53-8, Alanine methyl ester 15028-44-1, Phenylalanine methyl ester 18869-43-7, Leucine methyl ester 26682-99-5, Phenylglycine methyl ester 29022-11-5 35661-39-3 35661-40-6 82998-57-0, 3-Iodo-4-methylbenzoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(molded polymer supports for **combinatorial** synthesis)
IT 3815-20-1P, 4-Biphenylcarboxamide 60655-65-4P 63780-50-7P, [1,1'-Biphenyl]-4-acetamide 72366-65-5P 77529-40-9P 169624-67-3P 228714-64-5P 342631-45-2P 342631-46-3P 342631-48-5P 342631-49-6P

342631-50-9P 342631-51-0P 342631-52-1P 342631-53-2P 342631-54-3P
342631-55-4P 342631-56-5P 342631-57-6P 342631-58-7P 342631-59-8P
342631-60-1P 342631-61-2P 342631-62-3P 342631-64-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(molded polymer supports for **combinatorial** synthesis)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anres, C; Comb Chem High Throughput Screening 1999, V2, P29
(2) Bernatowicz, M; Tetrahedron Lett 1989, V30, P4645 HCAPLUS
(3) Bray, A; Tetrahedron Lett 1995, V36, P5081 HCAPLUS
(4) Bunin, B; J Am Chem Soc 1992, V114, P10997 HCAPLUS
(5) Bunin, B; New J Chem 1997, V21, P125 HCAPLUS
(6) Bunin, B; Proc Natl Acad Sci USA 1994, V91, P4708 HCAPLUS
(7) Czarnik, A; Chemtracts: Org Chem 1995, V8, P13 HCAPLUS
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L41 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:260125 HCAPLUS
DN 132:280975
TI Porous matrixes and plugs for solid-phase synthesis
IN **Kobylecki, Ryszard**
PA Cambridge Discovery Chemistry Limited, UK
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM B01J019-00
ICS C08J009-24; C07B061-00; C07K001-04
CC 47-3 (Apparatus and Plant Equipment)
Section cross-reference(s): 9, 21, 34, 38

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 2000021658 | A2 | 20000420 | WO 1999-GB3406 | 19991014 |
| WO 2000021658 | A3 | 20010201 | | |

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,

DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9962203 A1 20000501 AU 1999-62203 19991014
EP 1121196 A2 20010808 EP 1999-949229 19991014
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2002527412 T2 20020827 JP 2000-575617 19991014
PRAI GB 1998-22436 A 19981014
WO 1999-GB3406 W 19991014

AB A porous device comprising a porous inert (e.g., thermoplastic) matrix contg. activated (linker-contg.) spherical particles is used for solid-phase synthesis, where the matrix comprises an inert body having an internal porous region contg. solid support resin particles (10-100 .mu.m) as active material entrapped in the internal region.

ST solid phase synthesis porous matrix plug; peptide synthesis solid phase porous matrix plug; org synthesis porous matrix plug; **combinatorial** chem solid phase synthesis porous plug

IT Dehydration reaction
(Mitsunobu reaction; porous matrixes and plugs for solid-phase synthesis)

IT Plastics, uses
Polymers, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(functionalized; porous matrixes and plugs for solid-phase synthesis)

IT Solid phase synthesis
(peptide; porous matrixes and plugs for solid-phase synthesis)

IT Acylation
Alkylation
**Combinatorial** chemistry
**Combinatorial library**
Cyclization
Esterification
Microparticles
Organic synthesis
Oxidation
Peptide **library**
Porous materials
Reduction
Solid phase synthesis
Suzuki coupling reaction
(porous matrixes and plugs for solid-phase synthesis)

IT Laboratory ware
(reaction vessels, plugs for; porous matrixes and plugs for solid-phase synthesis)

IT Amination
(reductive; porous matrixes and plugs for solid-phase synthesis)

IT Plastics, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(thermoplastics; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, chloromethylated
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Merrifield Resin LL (Novabiochem 01-64-0008), plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 263767-63-1, NovaSyn TG Amino Resin
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Novabiochem 01-64-0094, plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, ar-[chloro(2-chlorophenyl)phenylmethyl] deriv.
RL: DEV (Device component use); TEM (Technical or engineered material

use); USES (Uses)
(Novabiochem 01-64-0114, plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, Benzene, diethenyl-, polymer with ethenylbenzene, ar-[4-[2-(4-formyl-3,5-methoxyphenoxy)ethoxy]methyl] deriv.
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Novabiochem 01-64-0261, plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 263858-31-7, Aminomethyl NovaGel HL
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Novabiochem 01-64-0283, plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, Benzene, diethenyl-, polymer with ethenylbenzene, ar-[(hydroxyimino)(4-nitrophenyl)methyl] deriv.
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Oxime resin (Novabiochem 01-64-0022), plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, Benzene, diethenyl-, polymer with ethenylbenzene, ar-[[4-[(4-acetyl-2-methoxyphenyl)hydroxymethyl]phenoxy]methyl deriv.
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Rink Acid resin (Novabiochem 01-64-0012), plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, Benzene, diethenyl-, polymer with ethenylbenzene, ar-[[4-(hydroxymethyl)phenoxy]methyl] deriv.
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Wang resin (Novabiochem 01-64-0014), plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-70-7D, Benzene, diethenyl-, polymer with ethenylbenzene, ar-[[4-[[[(4-nitrophenoxy)carbonyl]oxy]methyl]phenoxy]methyl] deriv.
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(p-nitrophenyl carbonate Wang resin (Novabiochem 01-64-0123), plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9003-53-6, Polystyrene 31549-38-9, 1,2-Ethanediol, polymer with ethenylbenzene 117381-20-1D, TentaGel, aminomethyl derivs. 210106-36-8, NovaSyn TG
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(plugs contg.; porous matrixes and plugs for solid-phase synthesis)

IT 9002-88-4, Polyethylene
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(porous matrixes and plugs for solid-phase synthesis)

IT 123-75-1DP, Pyrrolidine, derivs., processes 588-46-5P 169624-67-3P 228714-64-5P 263756-47-4DP, 3,4-disubstituted derivs. 263756-49-6P, FMOC-Phe-NHOH 263756-51-0P
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(porous matrixes and plugs for solid-phase synthesis)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-68-5, DMSO, uses 68-12-2, DMF, uses 75-09-2, Dichloromethane, uses 109-99-9, THF, uses 123-91-1, 1,4-Dioxane, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(solvents; porous matrixes and plugs for solid-phase synthesis)

L41 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:421836 HCAPLUS

DN 131:73979
TI Solid support materials for preparing a **library** of compounds
IN **Kobylecki, Ryszard**; Kronfli, Esam; Bradley, Mark; Cowell, Daniel
PA Cambridge Combinatorial Limited, UK
SO PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM D06M014-26
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 35
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9932705 | A2 | 19990701 | WO 1998-GB3875 | 19981222 |
| | WO 9932705 | A3 | 19991028 | | |
| | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9917731 | A1 | 19990712 | AU 1999-17731 | 19981222 |
| | EP 1044297 | A2 | 20001018 | EP 1998-962601 | 19981222 |
| | R: BE, CH, DE, FR, GB, IT, LI, NL | | | | |
| | JP 2001527025 | T2 | 20011225 | JP 2000-525616 | 19981222 |
| PRAI | GB 1997-26983 | A | 19971222 | | |
| | WO 1998-GB3875 | W | 19981222 | | |

AB Solid support materials for the synthesis of compds. such as peptides comprises a polymer which is post-irradn. grafted with a monomer or monomers. The monomer or monomers includes functional groups arranged to be covalently bonded to other compds. or moieties. Thus, Fmoc-Ala-Phe-Gly-NH2 (Fmoc is fluorenylmethoxycarbonyl) was prepd. by peptide coupling using a derivatized acrylic acid material.
ST solid support peptide synthesis; **combinatorial library** solid phase synthesis
IT Solid phase synthesis
(peptide; solid support materials for prepg. a **library** of compds.)
IT **Combinatorial library**
(solid support materials for prepg. a **library** of compds.)
IT 75446-59-2P 228714-64-5P 228714-65-6P 228714-66-7P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(solid support materials for prepg. a **library** of compds.)
IT 98-80-6, Phenylboronic acid 619-58-9, 4-Iodobenzoic acid 619-66-9, 4-Formylbenzoic acid 3006-96-0, 4-Hydroxymethylbenzoic acid 169624-67-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(solid support materials for prepg. a **library** of compds.)

L41 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:666474 HCAPLUS
DN 129:343122
TI Extracting order from chaos
AU Tapolczay, David J.; **Kobylecki, Ryszard J.**; Payne, Lloyd J.; Hall, Beverley
CS The Merrifield Centre, Cambridge Combinatorial Ltd., Cambridge, CB1 3LQ, UK
SO Chemistry & Industry (London) (1998), (19), 772-775

CODEN: CHINAG; ISSN: 0009-3068
PB Society of Chemical Industry
DT Journal; General Review
LA English
CC 21-0 (General Organic Chemistry)
AB A review, with 18 refs., on **combinatorial** chem.
ST review **combinatorial** chem; **combinatorial** chem review
IT **Combinatorial** chemistry
(review of **combinatorial** chem.)
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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(6) Eichler, J; Pept Res 1991, V4, P296 HCAPLUS
(7) Flynn, D; J Am Chem Soc 1997, V119, P4874 HCAPLUS
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(9) Frank, R; Tetrahedron 1988, V44, P6031 HCAPLUS
(10) Furka, A; Int J Peptide Protein Res 1991, V37, P487 HCAPLUS
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(12) Haunert, F; J Chem Soc, Perkin Trans I 1998, P2235 HCAPLUS
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(18) Studer, A; Science 1997, V275, P82
(19) Terrett, N; Chem Eur J 1997, V3, P1917 HCAPLUS
(20) Terrett, N; Tetrahedron 1995, V51, P8135 HCAPLUS

L41 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:50899 HCAPLUS
DN 128:141010
TI Drug discovery by **combinatorial** chemistry - the development of a novel method for the rapid synthesis of single compounds
AU Terrett, Nicholas K.; Gardner, Mark; Gordon, David W.; **Kobylecki, Ryszard J.**; Steele, John
CS Discovery Chemistry, Pfizer Central Research Sandwich, Kent, CT139NJ, UK
SO Chemistry--A European Journal (1997), 3(12), 1917-1920
CODEN: CEUJED; ISSN: 0947-6539
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1
AB A lecture relating to peptide **combinatorial libraries.** Through the advantages conferred in the speed of synthesis, **combinatorial** chem. is making a significant impact on the process of drug discovery. The mix-and-split paradigm has been an effective method for the prodn. of compd. mixts., although there is now a need for new, fast **library** approaches to generate well-characterized single compds. Having already demonstrated the successful prepn. and application of **library** mixts., we have now developed a novel **combinatorial** method for the prodn. of single compds.
ST peptide **combinatorial library** drug discovery lecture
IT **Combinatorial library**
Drugs
(drug discovery by **combinatorial** chem. and method for rapid synthesis of single compds.)
IT Peptides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)

(drug discovery by **combinatorial** chem. and method for rapid synthesis of single compds.)

L41 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:537252 HCAPLUS
DN 125:196380
TI Preparation of a **library** of compounds by solid-phase synthesis.
IN **Kobylecki, Ryszard Jurek**; Gardner, John Mark Francis
PA Pfizer Limited, UK
SO Brit. UK Pat. Appl., 37 pp.
CODEN: BAXXDU
DT Patent
LA English
IC ICM C07K001-04
ICS B32B005-26; B32B007-12; D21H017-26
CC 34-3 (Amino Acids, Peptides, and Proteins)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | GB 2295152 | A1 | 19960522 | GB 1994-23332 | 19941118 |
| | CA 2205583 | AA | 19960530 | CA 1995-2205583 | 19951117 |
| | WO 9616078 | A1 | 19960530 | WO 1995-GB2707 | 19951117 |
| | W: CA, FI, JP, MX, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 792280 | A1 | 19970903 | EP 1995-937947 | 19951117 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE | | | | |
| | JP 10509952 | T2 | 19980929 | JP 1995-516666 | 19951117 |
| | FI 9701812 | A | 19970516 | FI 1997-1812 | 19970428 |
| | US 6153375 | A | 20001128 | US 1997-836755 | 19970516 |
| PRAI | GB 1994-23332 | A | 19941118 | | |
| | WO 1995-GB2707 | W | 19951117 | | |

AB A method of making a **library** of compds. comprises the following steps: (a) individually identifying a plurality of discrete reaction zones defined on laminar solid support material; (b) charging each of said reaction zones with a starting material; (c) sub-dividing the reaction zones into .gtoreq.2 initial batches; (d) applying .gtoreq.2 different reagents, 1 to each of the reaction zones in each initial batch, and recording the identity of those reaction zones to which each of said different reagents is applied; (e) subjecting all reaction zones to reaction conditions which promote reaction to completion; (f) further sub-dividing the reaction zones into .gtoreq.2 alternative batches; (g) applying .gtoreq.2 different reagents, one to each of the reaction zones in each alternative batch, and recording the identity of those reaction zones to which each of said different reagents is applied; (h) subjecting all reaction zones to reaction conditions which promote reaction to completion, and (i) repeating steps (f) to (h) as desired. The solid support may be amine-derivatized cellulose sheets, or laminated materials such as a functionalized resin (aminomethylpolystyrene) sandwiched (with a polyethylene) between porous inert sheets (non-woven fibrous polypropylene). Thus, a 1677 component peptoid **library** was prepd. on aminopropyl-functionalized paper divided into 43 columns and 39 rows. The 43 columns were divided and sep. functionalized with activated FMOC-protected amino acid derivs. followed by deprotection and acetylation of residual amine functionality; the strips were stacked and cut into sets of reaction zones, each set was coupled with a second amino acid deriv. followed by deprotection. Finally, the combined set of 1677 reaction zones was treated with diphenylacetyl chloride and Hunig's base followed by individual cleavage of the trimeric products from their reaction zones.
ST peptoid **combinatorial library** prepn
IT **Combinatorial library**
Merrifield synthesis
(prepn. of a **library** of compds. by solid-phase synthesis)
IT Peptides, preparation

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of a **library** of compds. by solid-phase synthesis)

IT 15373-56-5P 23828-14-0P 34027-62-8P 35193-18-1P 51352-46-6P
54925-87-0P 58725-29-4P 71227-74-2P 71730-64-8P 72578-95-1P
72829-55-1P 81161-89-9P 85807-00-7P 88992-14-7P 91290-35-6P
97812-04-9P 114019-68-0P 133706-67-9P 158052-68-7P 180511-20-0P
180511-22-2P 180511-23-3P 180511-24-4P 180511-26-6P 180511-27-7P
180511-29-9P 180511-31-3P 180511-32-4P 180511-34-6P 180511-36-8P
180511-37-9P 180511-38-0P 180511-39-1P 180511-40-4P 180511-41-5P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of a **library** of compds. by solid-phase synthesis)

IT 107-13-1, 2-Propenenitrile, reactions 9004-34-6, Cellulose, reactions
35661-40-6 71989-33-8 71989-35-0 71989-38-3 105047-45-8
126771-45-7 126771-47-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of a **library** of compds. by solid-phase synthesis)

IT 9004-41-5P, Cellulose cyanoethyl ether 87609-02-7P 180683-71-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of a **library** of compds. by solid-phase synthesis)

L41 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:717835 HCAPLUS
DN 123:284827
TI **Combinatorial** synthesis - the design of compound **libraries** and their application to drug discovery
AU Terrett, Nicholas K.; Gardner, Mark; Gordon, David W.; **Kobylecki, Ryszard J.**; Steele, John
CS Discovery Chem. Dep., Pfizer Cent. Res., Sandwich, Kent, CT13 9NJ, UK
SO Tetrahedron (1995), 51(30), 8135-73
CODEN: TETRAB; ISSN: 0040-4020
PB Pergamon
DT Journal; General Review
LA English
CC 21-0 (General Organic Chemistry)
Section cross-reference(s): 63
AB A review with 85 refs. of aims to give a comprehensive overview of **library** methodol., describing published examples of **combinatorial** synthesis applied to drug discovery.
ST review **combinatorial library** drug design
IT **Combinatorial library**
Pharmaceuticals
(**combinatorial** synthesis, the design of compd. **libraries** and their application to drug discovery)

=> d his

(FILE 'HOME' ENTERED AT 07:42:08 ON 13 JAN 2003)
SET COST OFF

FILE 'WPIX' ENTERED AT 07:43:15 ON 13 JAN 2003
E KOBYLECKI R/AU
L1 11 S E3,E4
L2 3 S L1 AND ((S03 OR J04)/DC OR (J04-? OR S03-?)/MC)
SEL DN AN L1 1 4 5 7
L3 4 S L1 AND E1-E10
L4 3 S L1 AND B01J/IC,ICM,ICS
L5 5 S L2-L4
E B01J/IC,ICM,ICS
L6 168207 S E3-E5

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                E B01J019/IC,ICM,ICS
L7         16313 S E3-E5
L8         17377 S E89-E91
L9           272 S L7 AND L8
                E B01J008/IC,ICM,ICS
L10        10398 S E3-E5
L11           22 S L9 AND L10
L12           21 S L11 NOT L5
                  SEL DN AN 19
L13            1 S L12 AND E1
L14          979 S L7 AND L10 NOT L5,L11
L15         1030 S L9,L14 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L16          138 S L15 AND (?POROUS? OR ?POROS? OR ?PERMEAB?)/BIX
L17          134 S L16 NOT L5,L11
L18           52 S L17 AND (SOLID(L)SUPPORT OR RESIN? OR ?ARRAY? OR COMBINATOR?
L19           20 S L17 AND (ASSEMBL? OR ?LINK? OR ENTRAP? OR TRAP?)/BIX
L20           22 S L15 AND MESH?/BIX
L21           83 S L18-L20
L22           29 S L21 AND (POROUS? OR POROS?)/BIX
L23           36 S L15 AND PORE
L24           32 S L23,L22 AND L18-L21
L25           32 S L24 NOT L5,L11
L26           33 S L13,L25
L27           22 S L25 AND ((S03 OR J04)/DC OR (S03-? OR J04-?)/MC)
L28           11 S L26 NOT L27
                  SEL DN AN 1 2
                  SEL DN AN 1 2
L29            2 S L28 AND (PACKING MATERIAL OR POLYNUCLEOTIDE SYNTHESIS)/TI
L30           24 S L27,L29
L31           51 S L21 NOT L22-L30
                  SEL DN AN 27 28
L32            3 S E10-E13
L33            2 S L32 NOT PROCESS/TI
L34           26 S L30,L33 AND L6-L33 NOT L5

     FILE 'BIOSIS' ENTERED AT 09:00:55 ON 13 JAN 2003
                E KOBYLECKI R/AU
L35           10 S E3-E6
L36            1 S L35 AND LIBRARIES

     FILE 'BIOSIS' ENTERED AT 09:02:05 ON 13 JAN 2003

     FILE 'HCAPLUS' ENTERED AT 09:02:43 ON 13 JAN 2003
                E KOBYLECKI R/AU
L37           37 S E4,E7-E12
L38            8 S L37 AND (COMBINATOR? OR LIBRAR?)
L39           29 S L37 NOT L38
L40            1 S L39 AND MULTICHAM?
L41            9 S L38,L40

     FILE 'HCAPLUS' ENTERED AT 09:05:33 ON 13 JAN 2003
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